

ENVIRESPONSE, INC.

ENVIRONMENTAL EMERGENCY RESPONSE UNIT

GSA RARITAN DEPOT, WOODBRIDGE AVENUE, BUILDING 209, BAY F, EDISON, N.J. 08837
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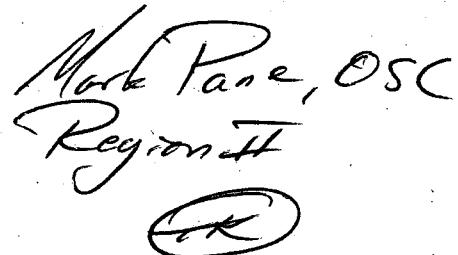
ARKANSAS CHEMICAL
NEWARK, NEW JERSEY
PROJECT NO. 3-70-78990299

OCTOBER 5, 1987

Submitted to: Tom Kady

Submitted by:

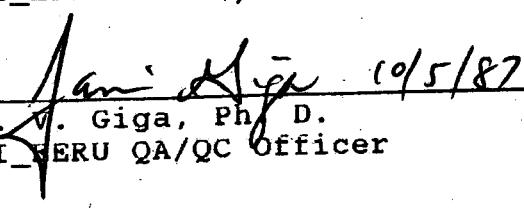
Enviresponce, Inc.

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433414

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Section I

INTRODUCTION

This report covers the analysis of charcoal and silica air sampling tubes taken at the Arkansas Chemical site on September 10, 1987.

Twelve carbon tubes, four samples, three field blanks and five unused tubes were sent to Princeton Testing Company on September 10, 1987 to be analyzed for organic solvents by NIOSH Method P & CAM 127.

Nine silica tubes, four samples, three field blanks, and two unused silica tubes were sent to Princeton Testing on September 11, 1987 to be analyzed for aromatic amines by NIOSH Method P & CAM 168.

ANALYTICAL PROCEDURES

The charcoal tubes were analyzed in accordance with NIOSH Method P & CAM 127. The results of this analysis is reported in Table 1. There was a acetone and benzene contamination in the carbon disulfide used to desorb the sample tubes. The concentration of benzene and acetone found in the solvent was subtracted form any concentrations found in the sample .

The silica tubes were analyzed in accordance with NIOSH Method P & CAM 168 with a modification in the type of detector. The modification procedure can be found in section V of this report. The results of this analysis can be found in Table 2.

TABLE 1. RESULTS OF ORGANIC SOLVENTS IN AIR

Sample No./ Parameter	Liters Air Sampled	Total (ug) per Tube	mg/m ³ or ug/L	ppm in Air
<u>C1</u> Toluene	120	6.25	0.052	0.014
<u>C2</u> Toluene	120	6.84	0.057	0.015
Xylene	120	3.08	0.026	0.006
<u>C3</u> None Detected	Unknown	--	--	--
<u>C4</u> Toulene	97.5	5.69	0.058	0.015
<u>CFB1</u> None Detected	0	--	--	--

TABLE 2. RESULTS OF AROMATIC AMINES IN AIR

Sample No./ Parameter	Liters Air Sampled	Total (ug) per Tube	mg/m ³ or ug/L	ppm in Air
<u>S1</u> None Detected	120	--	--	--
<u>S2</u> None Detected	120	--	--	--
<u>S3</u> None Detected	Unknown	--	--	--
<u>S4</u> None Detected	97.5	--	--	--
<u>SFB1</u> None Detected	0	--	--	--

SECTION II

QA/QC PROCEDURES

QA/QC Table 3 presents the results for the surrogate standard recoveries for the organic solvent analysis. The recoveries were all good and within 94- 98 percent.

QA/QC Table 4 presents the results of a blank charcoal which was spiked with varying concentrations of the organic solvents. All recoveries ranged from 88 -103 percent. The spike concentrations were calculated differently than the samples. The spike concentrations were calculated using a spike standard instead of the daily standard.

QA/QC Table 5 presents the results of a blank silica tube which was spiked with varying concentrations of the aromatic amines. These recoveries ranged from 88- 93 percent with the exception of N,N' Dimethylamine and p-Anisidine. These amines had spike recoveries of 69 and 60 percent respectively. The aromatic amine spike concentrations were calculated in the same manner as the organic solvents.

**QA/QC TABLE 3. RESULTS OF SURROGATE RECOVERIES FOR
ORGANIC SOLVENTS**

Sample No.	% Recovery of 4-Bromofluorobenzene
C1	96
C2	98
C3	95
C4	97
CFB1	94

**QA/QC TABLE 4. RESULTS OF SPIKE RECOVERIES FOR
ORGANIC SOLVENTS**

Concentrations reported as ug/L

Parameter	Sample Conc.	Spike Conc.	Recovered Conc.	%Recovery
Chloroform	ND	11.1	10.5	95
Methyl Ethyl Ketone	ND	7.2	6.3	88
p-Dioxane	ND	8.8	8.2	93
Trichloroethylene	ND	13.1	13.6	103
Benzene	ND	7.8	7.8	100
Toluene	ND	9.2	9.0	98

ND - denotes not detected.

**QA/QC TABLE 5. RESULTS OF RESULTS OF SPIKE RECOVERIES FOR
AROMATIC AMINES**

(Concentrations reported as ug/ml)

Parameter	Spike	Recovered	% Recovery
N,N' Dimethylamine	6.4	4.38	69
Aniline	7.8	6.88	88
2,4-Dimethylaniline	7.8	6.96	89
O-Anisidine	4.8	4.23	88
O-Toluidine	6.9	6.45	93
P-Anisidine	6.6	3.94	60
P-Nitroaniline	4.6	4.27	93

SECTION III

G.C. CALIBRATION

		<u>5 ml</u> 50	<u>.25</u> 50	<u>1</u> 50	<u>.5</u> 10	<u>.25</u> 10	<u>.11</u> 10	<u>.05</u> 10
<u>MIX 1</u>								
o-diol	2924	292.4	146.2	58.48	146.2	73.1	29.24	14.
CHCl ₃	23340	2334	1167	466.8	1167	583.5	233.4	116
MEK	3992	399.2	199.6	79.8	199.6	99.8	39.92	19.
-Dioxane	6240	624	312	124.8	312	154	62.4	31.
TCE	4388	438.8	219.4	87.8	219.4	109.7	43.9	21.
Ø	2436	243.6	121.8	48.72	121.8	60.9	24.4	12.
Toluene	2800	280	140	56	140	70	28	14
Xylenes	2980	298	149	59.6	149	74.5	29.8	14.
<u>MIX 2</u>								
MeCl ₂	8720	872	436	174.4	436	218	87.2	4.
1,2 DCE	5508	550.8	275.4	110.2	275.4	137.7	55.1	27
1,1,1 TCE	3764	376.4	188.2	75.3	188.2	94.1	37.6	18
CCl ₄	8464	846.4	423.2	169.3	423.2	211.6	84.6	42
1,1,2 TCE	4272	427.2	213.6	85.4	213.6	106.8	42.7	21
PCE	7244	724.4	362.2	144.9	362.2	181.1	72.4	31
Styrene	2336	233.6	116.8	46.72	116.8	58.4	23.4	11.1

CS₂ lot # 9172-1

4/11/87 | carb back &

100° SQ 10° 22° - 19
70° 1° 10° min
3rd mix
30 sec 1 min

N₂ 5 pg

f NB # 5 pg

PcCAM 127 Calibration

7111 X

		RT	PA	
I	Cetone	292.4 ppm	3.21, 3.26, 3.39	32
	146.2	3.14, 3.26, 3.25, 3.41, 3.45, 3.41	178, 173, 199, 165, 166, 165	17
	73.1	3.18, 3.26, 3.31	92, 86, 86	88
	58.5	3.24, 3.31, 3.35,	68, 66, 64, 70, 77	69
	29.2	3.01, 2.99, 2.98	38, 33, 36	36
	14.6	3.00, 3.02, 3.00	14, 18, 15	16
CHCl ₃	233.4	6.25, 6.30, 6.48	214, 214, 204	211
	116.7	6.15, 6.29, 6.28, 6.49, 6.54	107, 105, 106, 100, 99, 100	103
	58.3.5	6.17, 6.30, 6.35	50, 52, 51	51
	466.8	6.26, 6.32, 6.39	41, 40, 40, 44, 44	42
	233.4	5.94, 5.96, 5.94	23, 22, 22	2
	116.7	5.96, 5.98, 5.96	11, 9, 11	11
MEK	399.2	6.70, 6.75, 6.94	615, 600, 568	59
	199.6	6.60, 6.74, 6.74, 6.95, 7.01	308, 299, 301, 277, 274, 276	28
	99.8	6.63, 6.76, 6.82	149, 148, 143	14
	79.8	6.72, 6.80, 6.84	116, 111, 109, 125, 126	11
	39.9	6.46, 6.43, 6.41	65, 64, 63	6
	19.9	6.44, 6.47, 6.44	32, 29, 31	3
O	oxane	624	571, 556, 529	55
	312	7.68, 7.83, 7.82, 8.04, 8.10	287, 280, 277, 259, 253, 254	26
	156	7.71, 7.85, 7.90	138, 136, 132	135
	124.8	7.80, 7.86, 7.95	109, 103, 101, 117, 117	10C
	62.4	7.55, 7.52, 7.50	60, 59, 58	59
	31.2	7.54, 7.56, 7.54	29, 29, 29	29
TCE	438.8	10.18, 10.25, 10.45	251, 242, 232	242
	219.9	10.07, 10.21, 10.22, 10.50, 10.45	128, 124, 123, 114, 113, 113	119
	109.7	10.08, 10.23, 10.29	62, 61, 59	61
	87.8	10.18, 10.24, 10.33	49, 46, 46, 53, 53	49
	43.9	9.91, 9.88, 9.86	27, 27, 27	27
	21.9	9.88, 9.90, 9.88	13, 13, 13	13
Ø	243.6	10.62, 10.70, 10.90	757, 731, 701	73
	121.8	10.50, 10.65, 10.66, 10.95, 10.40	398, 386, 381, 354, 351, 353	37
	60.9	10.52, 10.67, 10.73	204, 201, 195	20
	48.7	10.42, 10.68, 10.77	146, 158, 155, 181, 180	16
	24.4	10.34, 10.31, 10.29	104, 103, 103	10
	12.2	10.31, 10.33, 10.31	64, 64, 64	64
ene	280	15.76, 15.87, 16.06	840, 810, 776	80
	140	15.63, 15.77, 15.81, 16.09	431, 419, 413, 383, 382, 379	40
	70	15.66, 15.80, 15.89	212, 204, 199	20
	56	15.74, 15.83, 15.92	165, 156, 154, 182, 180	16
	28	15.45, 15.42, 15.40	91, 91, 90	91

RT Q(CFM 127)

PA 4/11/87

lenses	298	ppm 21.65, 21.41, 21.87, 22.27 21.65, 22.41, 21.74, 22.25 21.41, 22.14, 22.50, 23.06 21.44, 22.18, 21.72, 22.49, 21.91 21.60, 22.35, 21.79, 21.94 21.03, 20.98, 21.68, 21.63 21.74, 21.68, 21.63 21.00, 21.01, 20.96 21.70, 21.71, 21.66	693, 669, 641 358, 349, 345, 321, 320, 318 174, 173, 166 154, 132, 129, 155, 154 77, 74, 75 36, 42, 37	61 33 17 14 7 3
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C2	872	2.92, 3.04, 3.12	251, 285, 277	271
MCCV	436	2.91, 2.92, 3.18, 3.05, 2.97	150, 156, 128, 144, 145, 143	144
	218	2.89, 3.00, 3.05	80, 78, 72	77
	174.4	2.94, 3.10, 3.06	63, 59, 59, 66, 63, 65	63
	87.2	2.71, 2.69, 2.67	35, 35, 35	35

1,2	43.6	2.72, 2.70, 2.69	17, 17, 15	16
L DCE	550.8	6.87, 7.04, 7.17	414, 388, 377	39
	275.4	6.84, 6.88, 7.26, 7.05, 6.94	198, 206, 175, 193, 190, 183	19
	137.7	6.83, 6.97, 7.06	103, 99, 95	90
	110.2	6.89, 7.13, 7.08	79, 72, 73, 85, 88, 83	80

1,11	55.1	6.63, 6.62, 6.59	45, 44, 44	44
	27.5	6.64, 6.63, 6.62	22, 21, 22	22
	376.4	7.83, 8.01, 8.16	202, 192, 185	193
	188.2	7.79, 7.82, 8.23, 8.00, 7.88	96, 99, 85, 95, 93, 90	93
	94.1	7.75, 7.90, 8.00	48, 49, 47	48

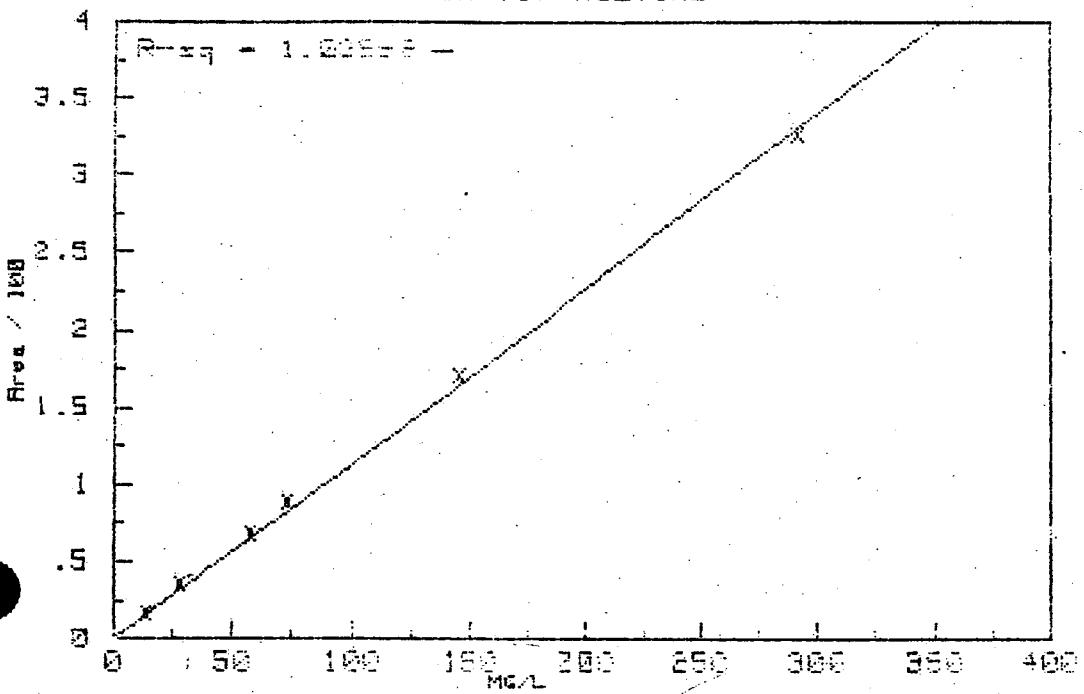
G4	75.3	7.81, 8.07, 8.00	38, 36, 36, 43, 44, 43	40
CC4	37.6	7.51, 7.49, 7.46	22, 22, 22	22
	18.8	7.52, 7.49, 7.47	7, 11, 11	10
	846.4	8.15, 8.33, 8.48	118, 115, 111	115
	423.2	8.12, 8.14, 8.56, 8.32, 8.2	48, 51, 43, 50, 49, 47	48

1,2 TCE	260.6	8.08, 8.22, 8.33	18, 21, 21	20
	169.3	8.13, 8.40, 8.33	15, 14, 14, 20, 21, 21	18
	84.6	7.83, 7.81, 7.78	9, 9, 9	9
	462.3	7.84, 7.81, 7.79	2, 3, 4	3

1,2	427.2	10.69, 10.88, 11.03	261, 245, 239	248
	213.6	10.66, 10.69, 11.12, 10.87, 10.78	138, 143, 121, 134, 131, 128	133
	106.8	10.62, 10.76, 10.88	83, 81, 74	80
	85.4	10.69, 10.95, 10.88	69, 63, 63, 75, 76, 75	70
	42.7	10.38, 10.36, 11.0.33	51, 50, 51	51

11	21.4	10.38, 10.35, 10.34	38, 37, 38	RT
33	724.4	14.67, 14.86, 15.02	233.6 ppm	682, 62
165	362.2	14.73, 15.11, 14.73	21.3, 21.45, 21.81	(651) 344
84	181.1	14.62, 14.65	21.36, 21.32, 21.51	335, 3
70	144.9	14.58, 14.72	21.37, 21.32	173, 162
39	72.4	14.65, 14.94	21.38, 21.25, 21.81	148, 152
		14.33, 14.31	21.39, 21.79	147, 147
		14.33, 14.31	21.39, 21.79	75, 76

Calibration for ACETONE

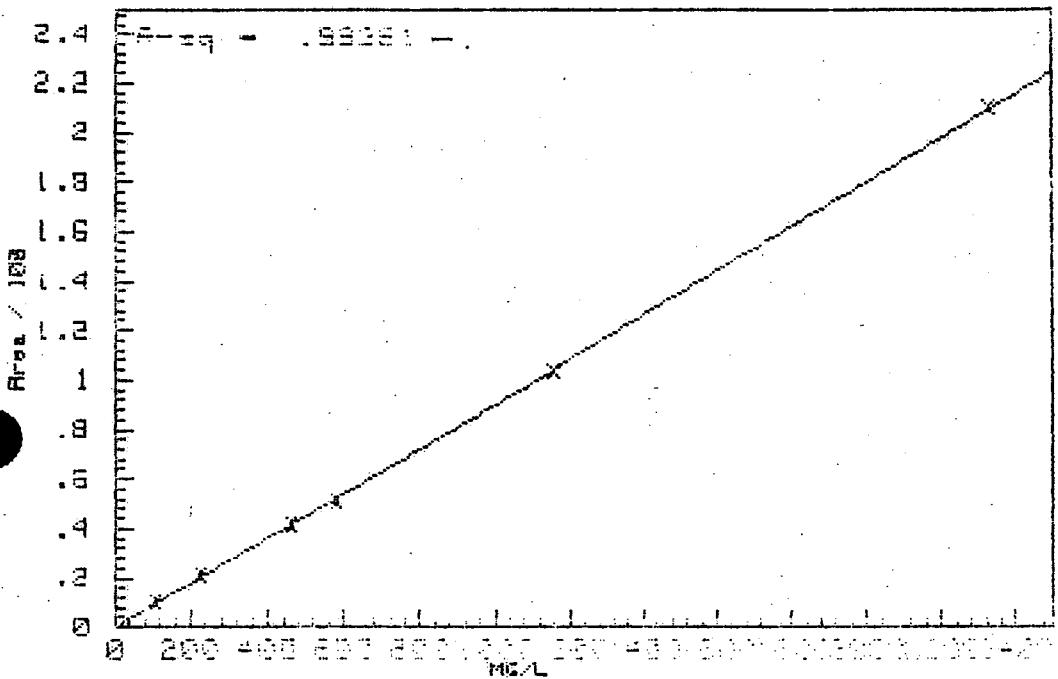


$$\text{mg/L} = \mu\text{g/mL}$$

This Plot is calibrated by a 1st order fit constrained through 0.
The Fit Coefficients are $C_0 = 0$ $C_1 = 1.13$.
The Index of Determination (r-squared) is 1.0000.

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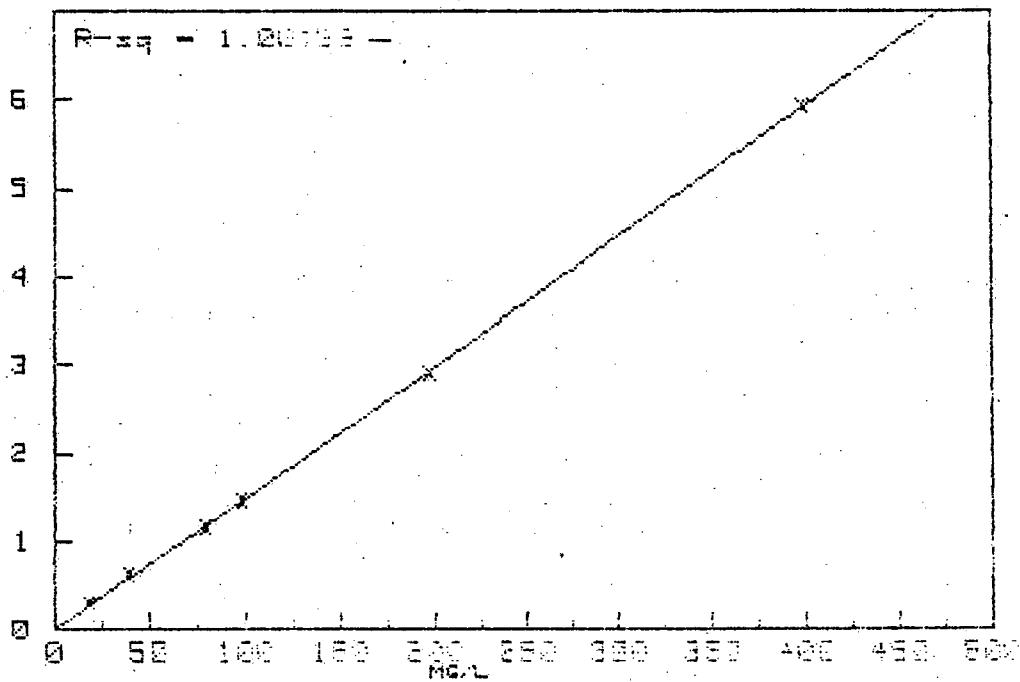
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The Index of Determination (r-square) is .9999.

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Calibration for MEX



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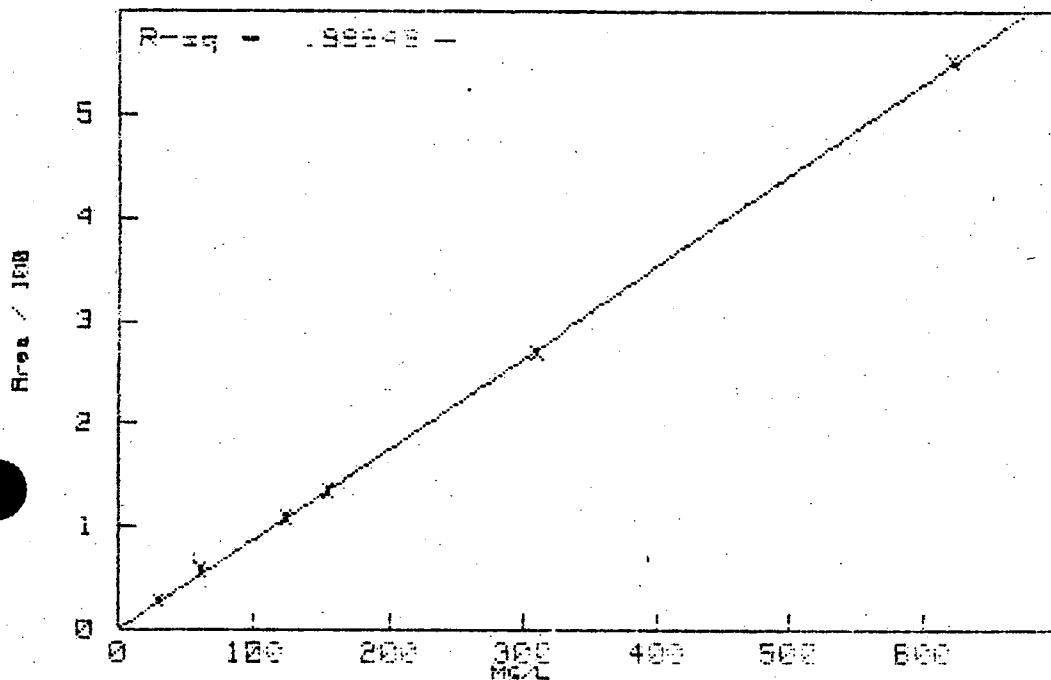
The Fit Coefficients are CO = 0.01 = 1.08752

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CHROMATOGRAMS

CHROMATOGRAMS STORED IN FILE: CHROMA.DAT, 0,1

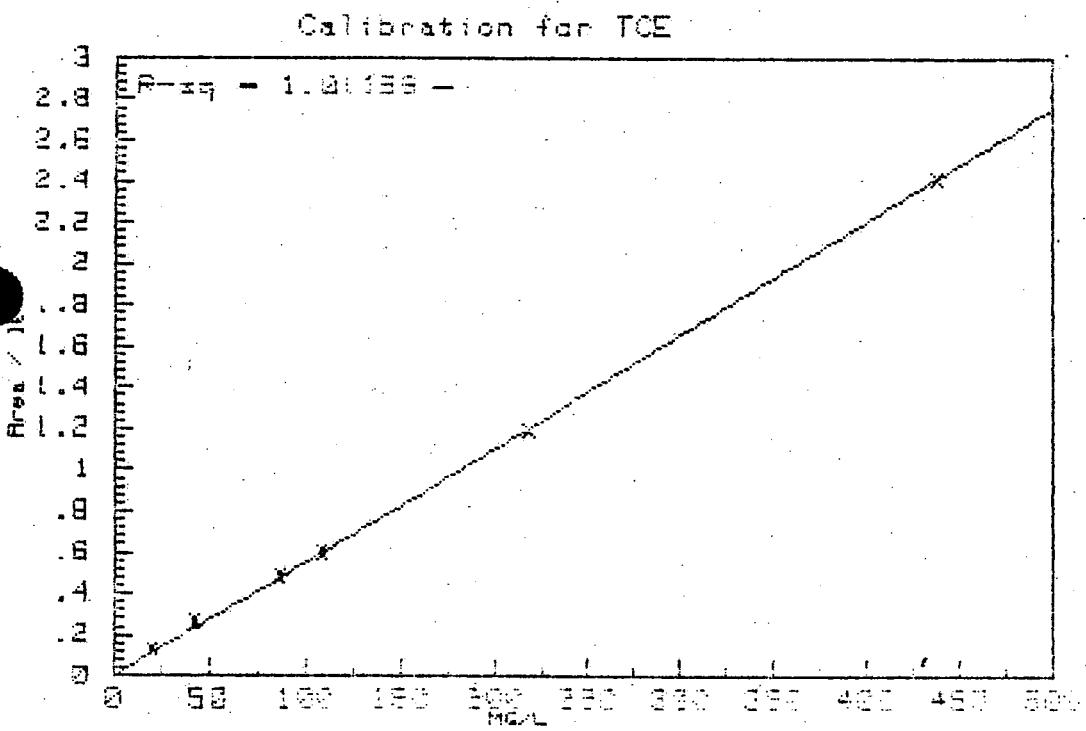
Calibration for p-Dioxane



This Plot is calibrated by a 1st order fit constrained through 0
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The Index of Determination (r-squared) is 1.0000

12 CALIBRATED FOR TCE, PEGASUS, 7-97, Q, A

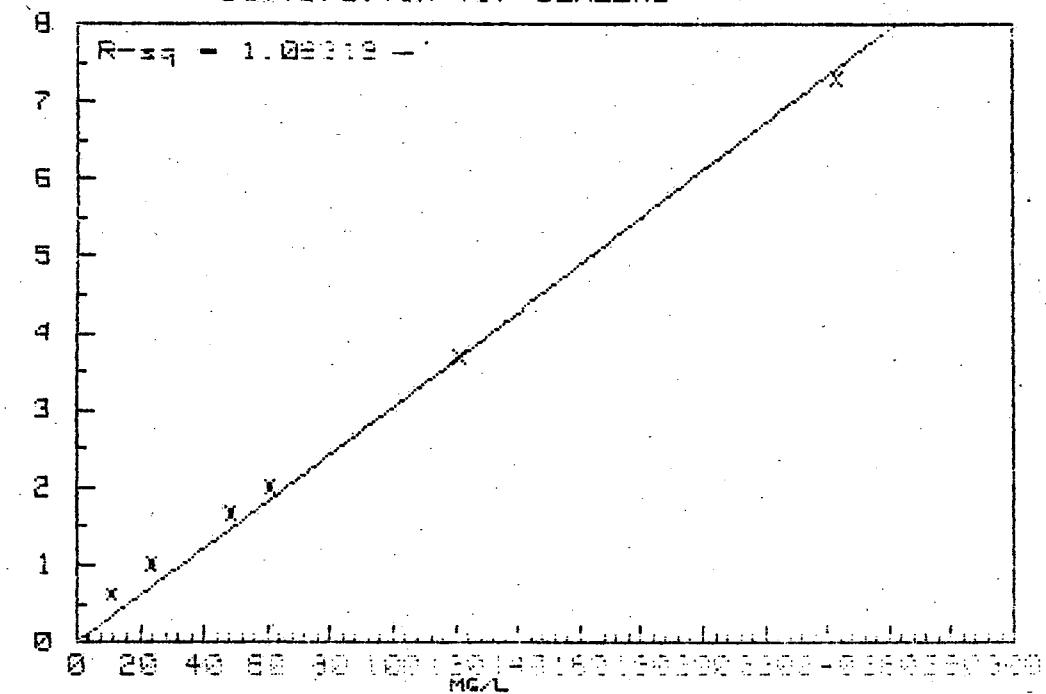


This Plot is calibrated by a 1st order fit constrained through 0.
The coefficients are $C_0 = 0.1551$

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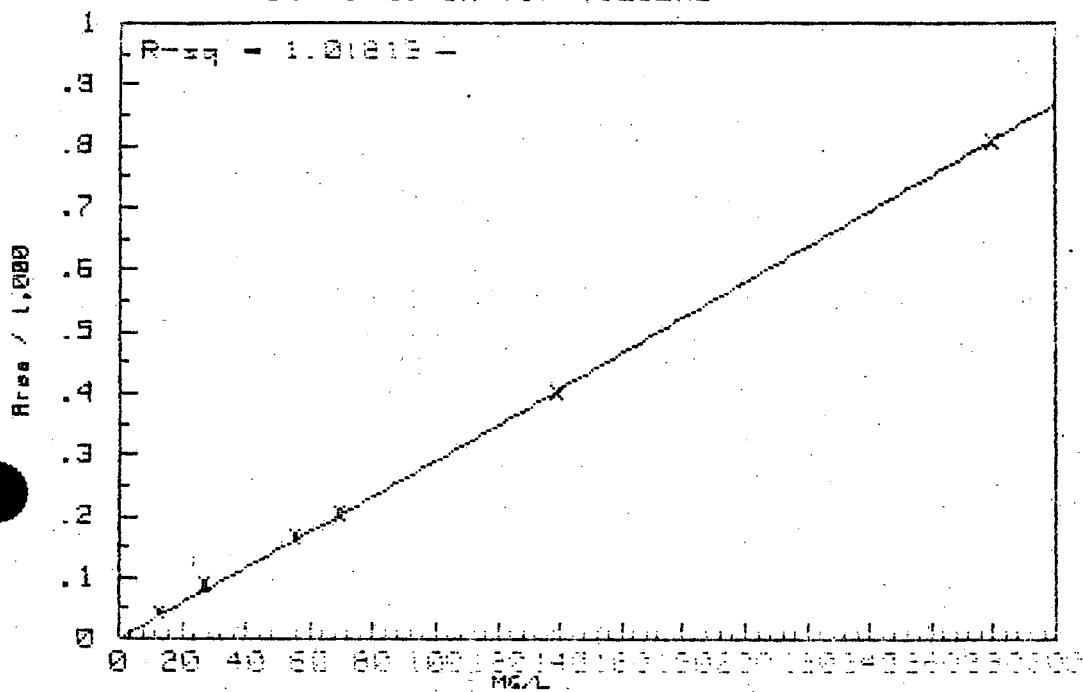
Calibration for BENZENE



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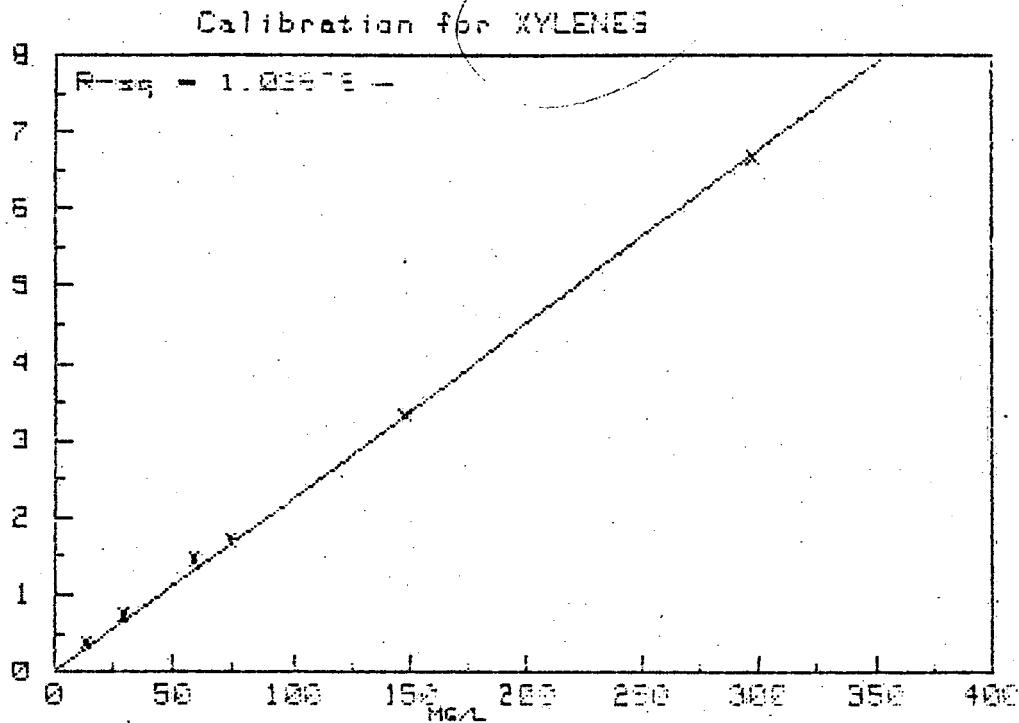
Calibration for TOLUENE



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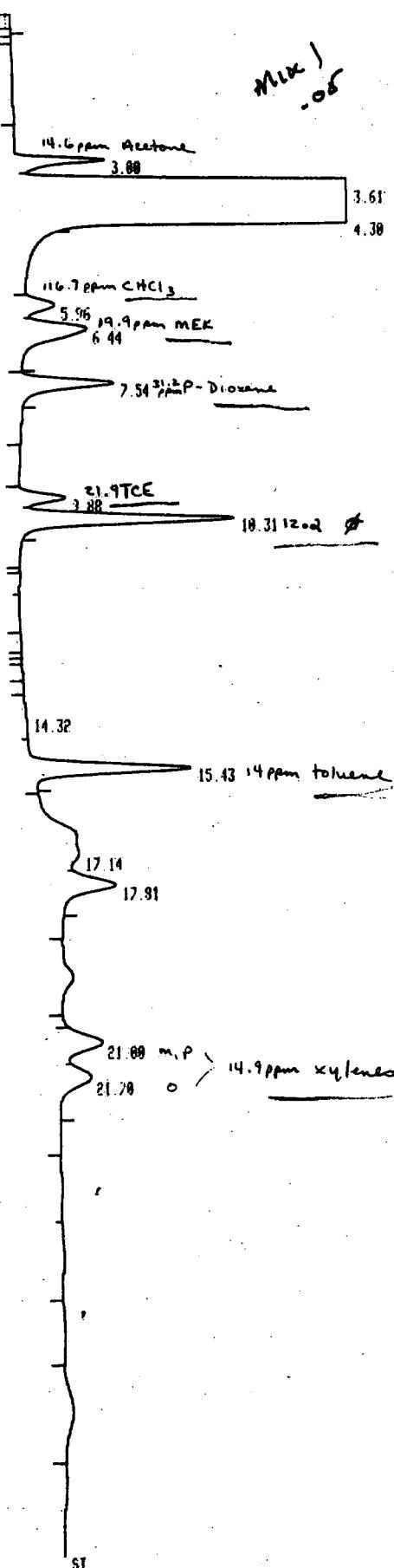
METHOD RECORDED IN FILE: PARAGRAPH 707.Q.1



This Plot is calibrated by a 1st order fit constrained through 0
 The Fit Coefficients are $C_0 = 0 \quad C_1 = 2.25$
 The Index of Determination (r^2 -square) is 1.00076

Packam 127 std
4/11/87

1% SP 1.000 / carbopack C
3ml inj
N₂ blow 30 ml/min
70-1-10-220-19



RUN # 588

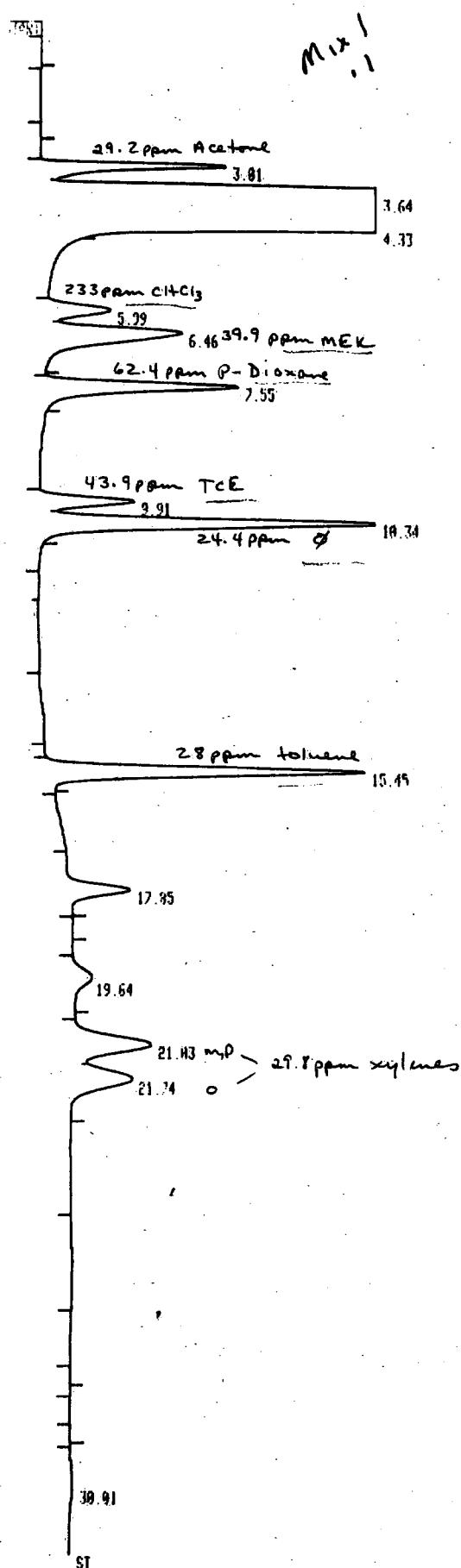
APR/11/87 12:38:15

AREA#	RT	AREA TYPE	AR/HT	AREA#
3.00	13679	PP	0.124	1.420
3.61	562360	PV	0.679	58.361
4.30	89291	VB	0.136	9.267
5.96	18881	BY	0.261	1.129
6.44	31482	VB	0.363	3.262
7.54	28903	PB	0.232	3.000
9.88	13200	BY	0.211	1.370
10.31	64082	VB	0.220	6.650
14.32	539	PP	0.299	0.056
15.43	44612	PB	0.268	4.639
17.14	35314	PV	0.895	3.665
17.81	32496	VB	0.486	3.363
21.00	28396	BY	0.387	2.117
21.70	16442	VB	0.416	1.706

TOTAL AREA= 963598

MUL FACTOR= 1.0000E+00

PChem 127
std
4/11/87

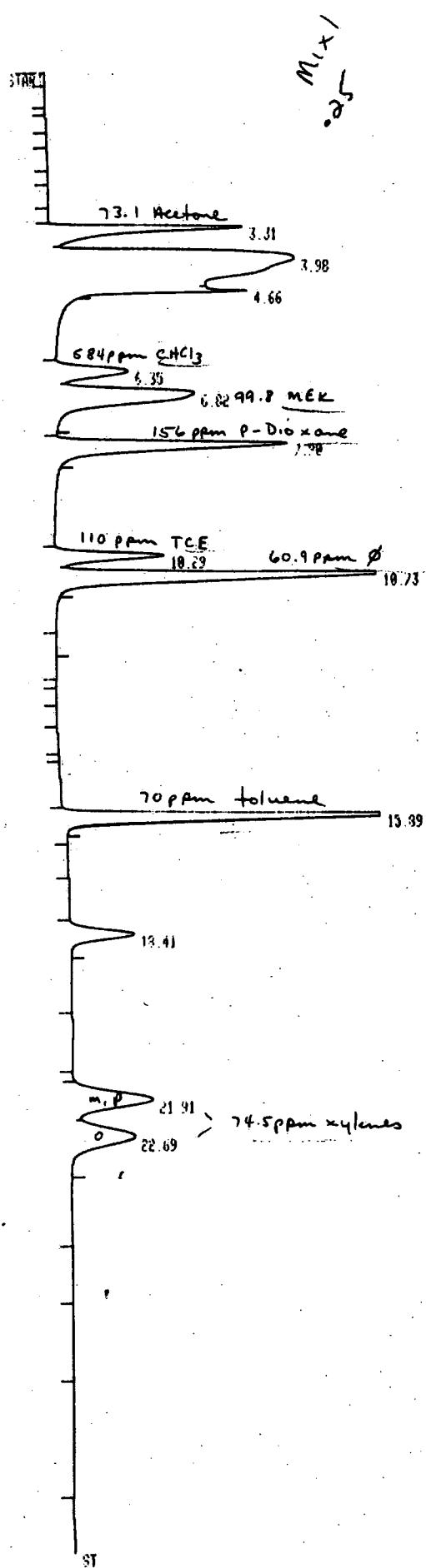


RUN # 590 APR/11/87 19:14:02

AREA%	RT	AREA	TYPE	AR/HT	AREA%
3.01		37814	PV	0.154	3.250
3.64		558330	VV	0.677	47.986
4.33		98558	VB	0.135	7.611
5.99		22563	BV	0.260	1.939
6.46		64839	VB	0.351	5.573
7.55		59661	BB	0.227	5.128
9.91		26786	BV	0.210	2.302
10.34		103540	VB	0.217	0.899
15.45		91300	PB	0.213	7.847
17.85		19829	BB	0.244	1.704
19.64		9778	PB	0.383	0.840
21.83		41458	BV	0.393	3.563
21.74		35432	VB	0.431	3.845
30.01		3625	I BP	0.851	0.312

TOTAL AREA= 1163500
MIL FACTOR=.10000000

Pearm 127
Std
4/11/87



RT	AREA	TYPE	AR/HT	AREA%
3.31	86255	PY	0.159	5.547
3.98	493729	VV	0.614	25.963
4.66	76003	VB	0.156	4.888
6.35	51499	PY	0.251	3.385
6.82	142590	VB	0.362	9.170
7.98	132070	PB	0.203	8.493
10.29	59040	PY	0.194	3.797
10.73	194490	VB	0.198	12.507
15.89	198760	PB	0.193	12.732
16.41	44920	PB	0.249	2.889
21.91	87640	BV	0.385	5.636
22.69	78111	VB	0.437	5.823

TOTAL AREA= 1555000
 MUL. FACTOR= 1.0000E+00

Peak 127

STD

4/11/87

146 ppm Acetone

3.45

4.15

4.83

1167 ppm CHCl₃

6.34

200 ppm MEK

312 ppm *p*-Dioxane

8.18

219 ppm TCE

10.58

122 ppm ϕ

10.95

140 ppm toluene

16.99

18.65

m,p 22.27

o 23.03

149 ppm xylenes

SI

RUN # 576

APR/11/87 06:00:05

AREA%	AREA TYPE	AR/HT	AREA%
RT 3.45	PB	0.154	6.602

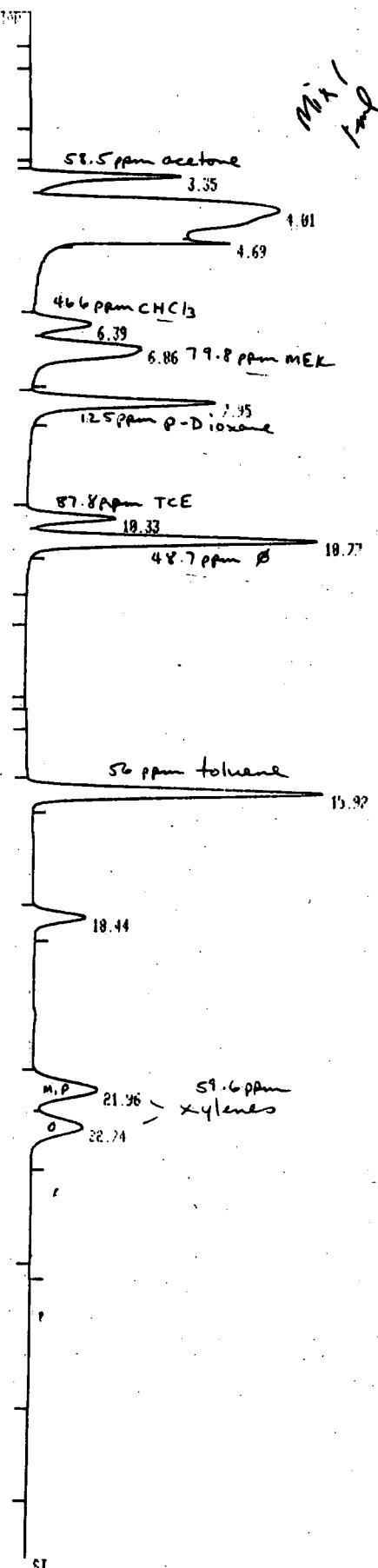
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AREA%	RT	AREA	TYPE	AR/HT	AREA%
	3.45	165498	PB	0.154	6.652
	4.15	358860	BV	0.604	14.424
	4.83	84248	VB	0.183	3.406
	6.54	99287	PV	0.249	3.991
	7.81	273860	VB	0.354	11.007
	8.10	253130	PB	0.194	10.174
	10.50	112988	PV	0.188	4.541
	10.95	351378	VB	0.192	14.122
	16.09	382150	PB	0.189	15.368
	19.65	86131	PB	0.253	3.462
	22.27	169240	BV	0.394	6.882
	23.09	150760	VB	0.449	6.059

TOTAL AREA= 2488000
MUL. FACTOR= 1.0000E+00

PCAm127 Std
4/11/87



AREA%

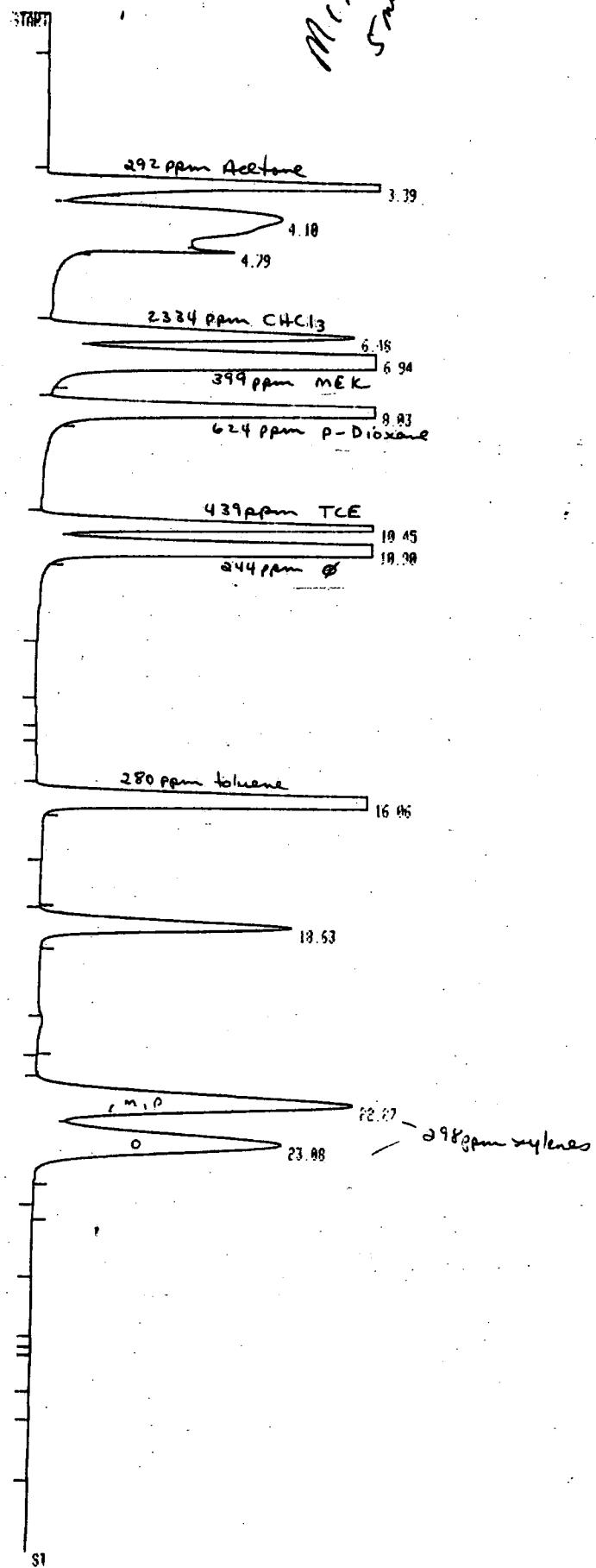
RT	AREA	TYPE	AR/HT	AREA%
3.35	64387	PP	0.162	4.962
4.01	398530	PV	0.610	38.097
4.69	75826	VB	0.161	5.844
6.39	39514	BV	0.253	3.045
6.86	108660	BB	0.368	9.374
7.95	181430	BB	0.206	7.817
10.33	45512	PV	0.194	3.588
10.77	154470	VB	0.198	11.984
15.92	153550	PB	0.193	11.833
18.44	34827	BB	0.250	2.684
21.96	68246	BV	0.388	5.260
22.74	68630	VB	0.439	4.673

TOTAL AREA= 1297600

MUL. FACTUR= 1.0000E+00

PCBM 127 SK
4/11/87

Mix/
Stale

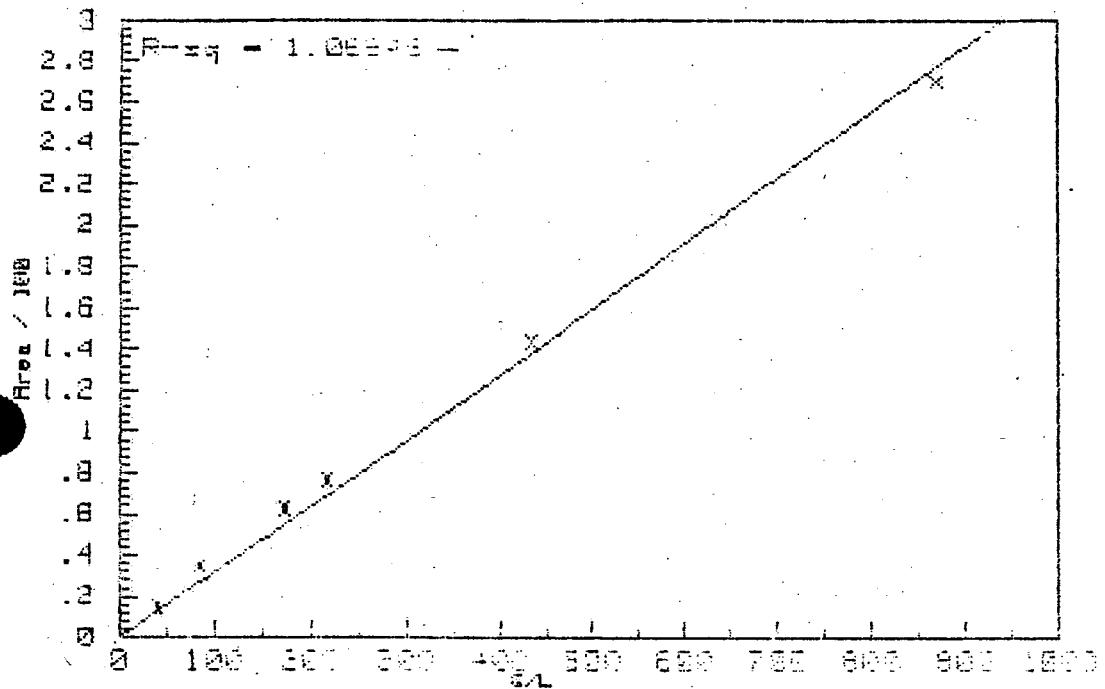


RT	AREA	TYPE	AR/HT	AREA%
3.39	304130	PB	0.132	6.688
4.10	349170	BV	0.598	7.679
4.79	71097	VB	0.164	1.564
6.48	203910	BV	0.245	4.484
6.94	567620	VB	0.340	12.482
8.03	529070	PB	0.190	11.635
10.45	231970	PV	0.186	5.101
10.90	701050	VB	0.191	15.417
16.06	726040	PB	0.189	17.066
16.63	173090	PB	0.252	3.806
22.27	338610	BV	0.393	7.446
23.08	301620	VB	0.449	6.633

TOTAL AREA= 4542400
MUL. FACTOR= 1.0000E+00

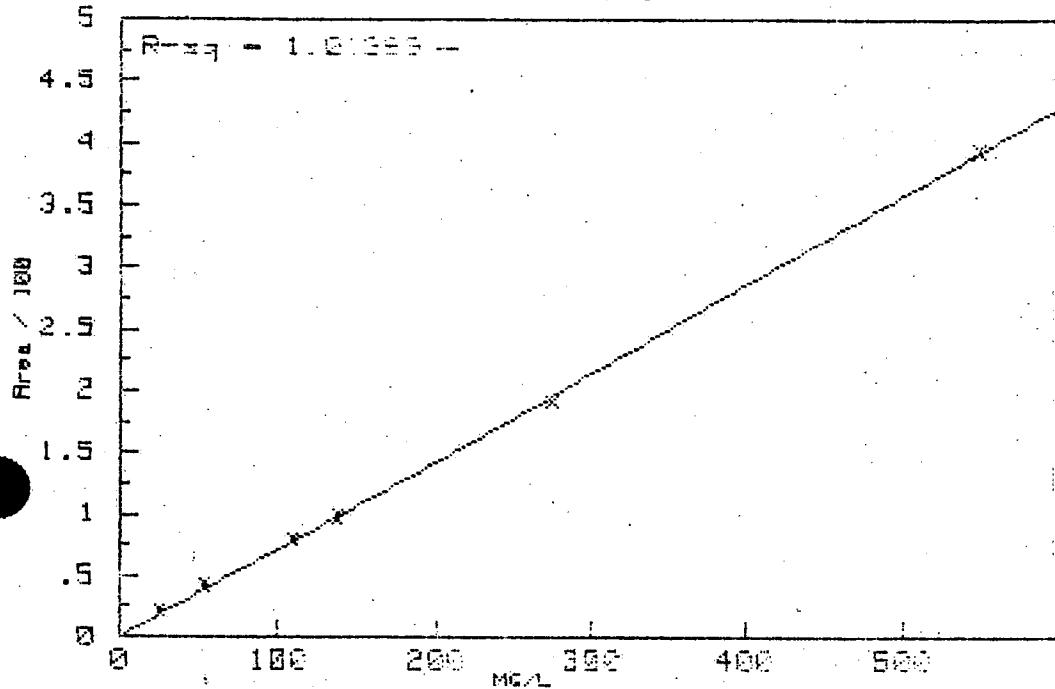
TO THE UNITED STATES GOVERNMENT: - 707.0, 1.

Calibration for METHYLENE CHLORIDE



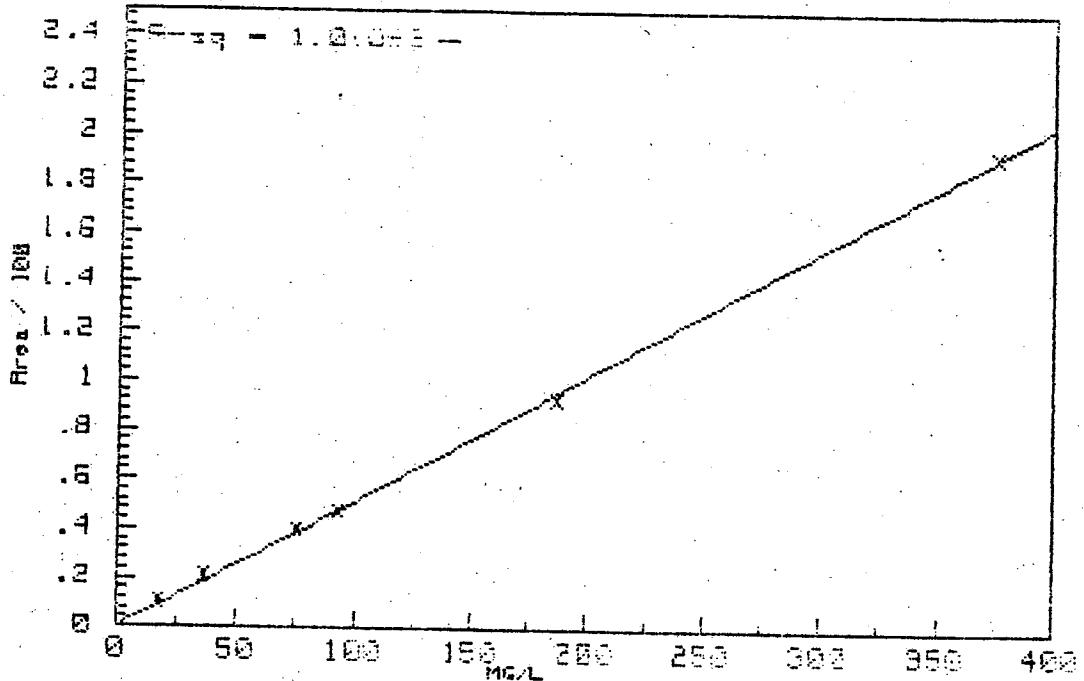
DATA EDITED IN FILE: C:\DATA\707.0.1

Calibration for 1,2,DCE



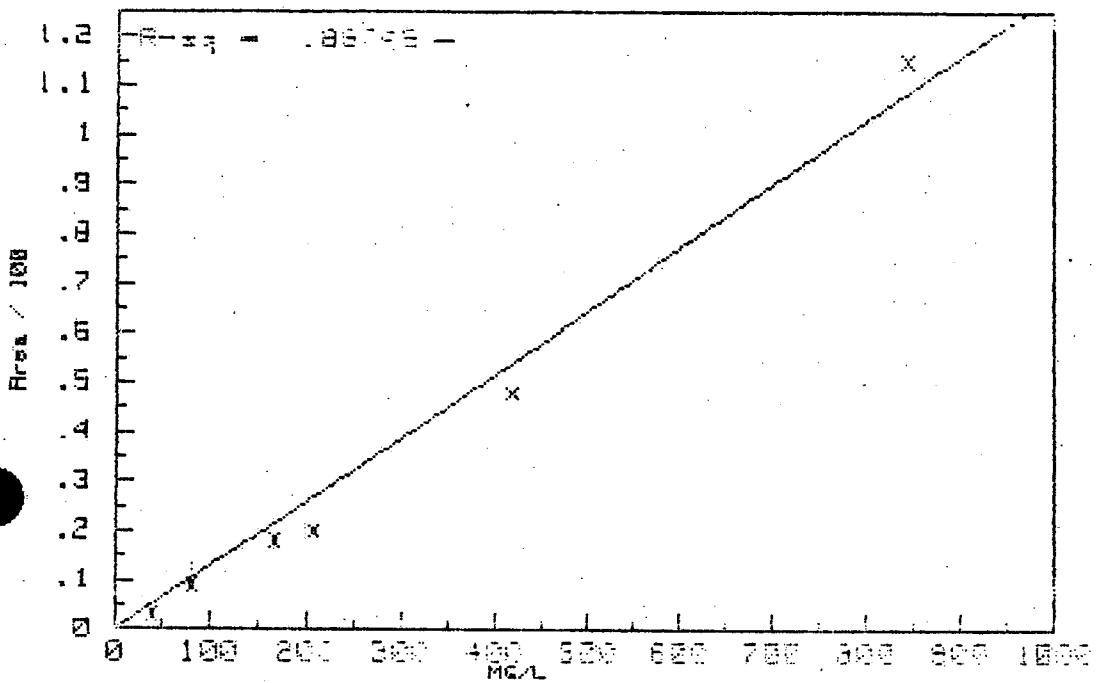
DATA RECORDED IN FILE: ARB404.707.0,1

Calibration for 1,1,1 TCE



DATA RECEIVED IN FILE: PARAM.707.0,1

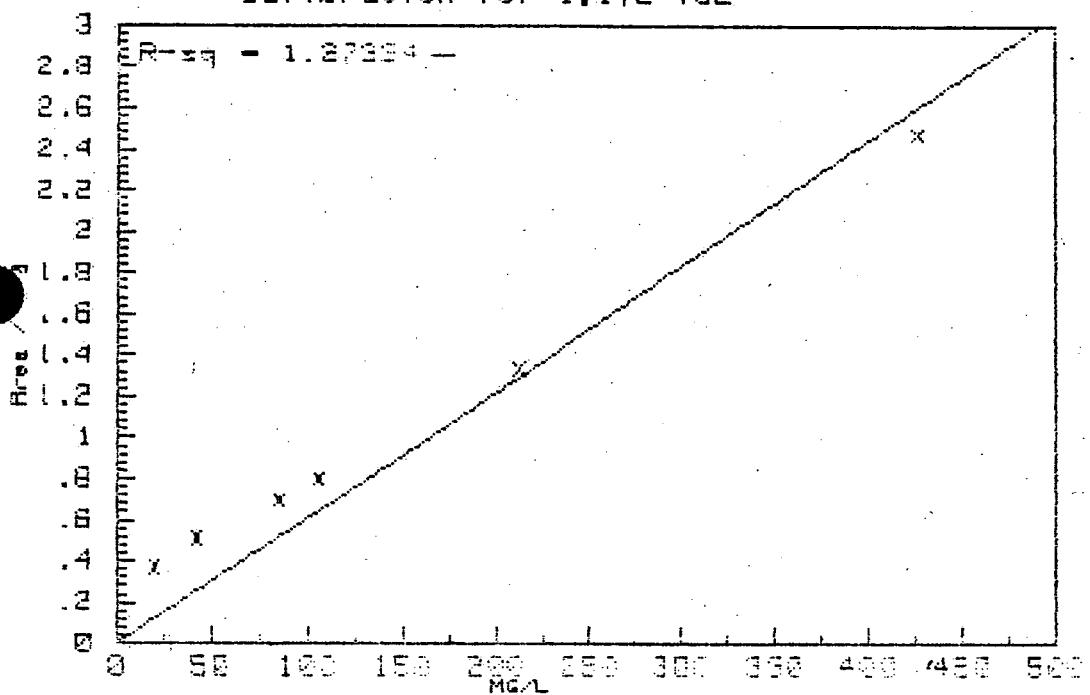
Calibration for CC14



This Plot is calibrated by a 1st order fit constrained through 0
The Fit Coefficients are C0 = 0 C1 = .129
The Index of Determination (r-square) is .66749

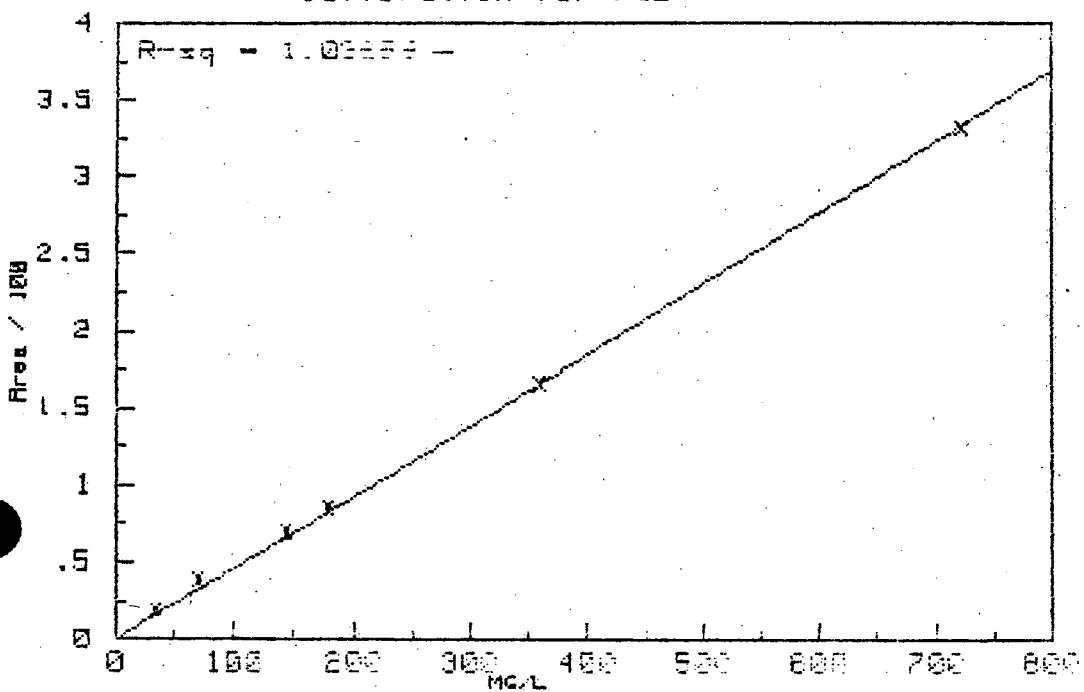
DATA STORED IN FILE: TAPING.707,0,1

Calibration for 1,1,2 TCE



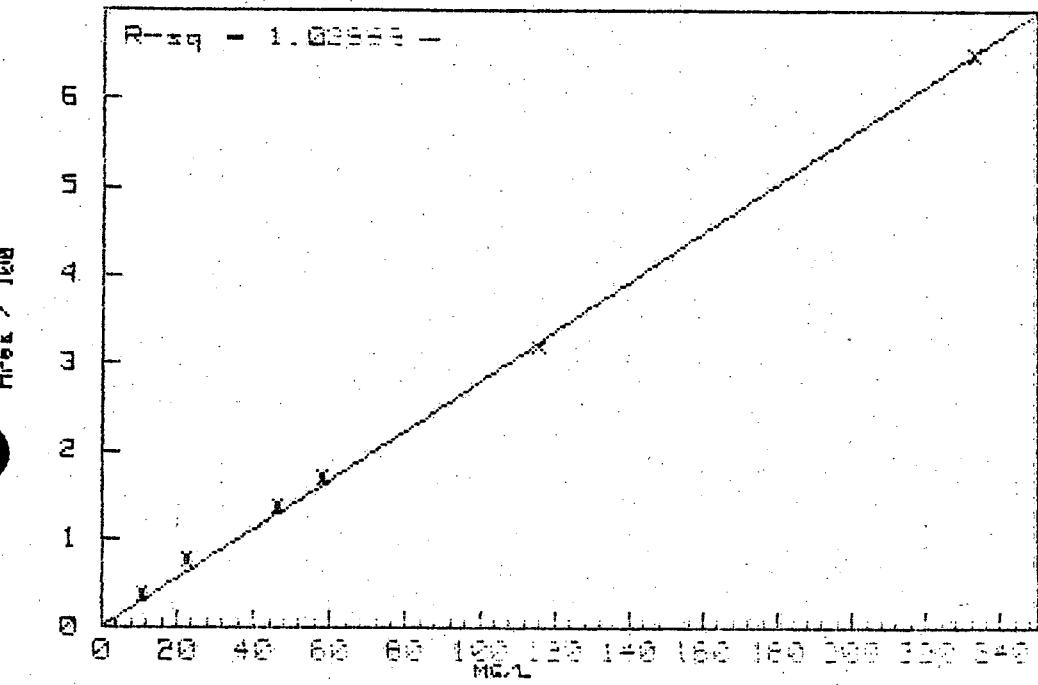
DATA SHEET RECORDED IN FILED: NUMBER: 1707.0.1

Calibration for PCE



DATA RECORDED IN FILE: STYRENE.707,0,1

Calibration for STYRENE



This Plot is calibrated by a 1st order fit constrained through 0.

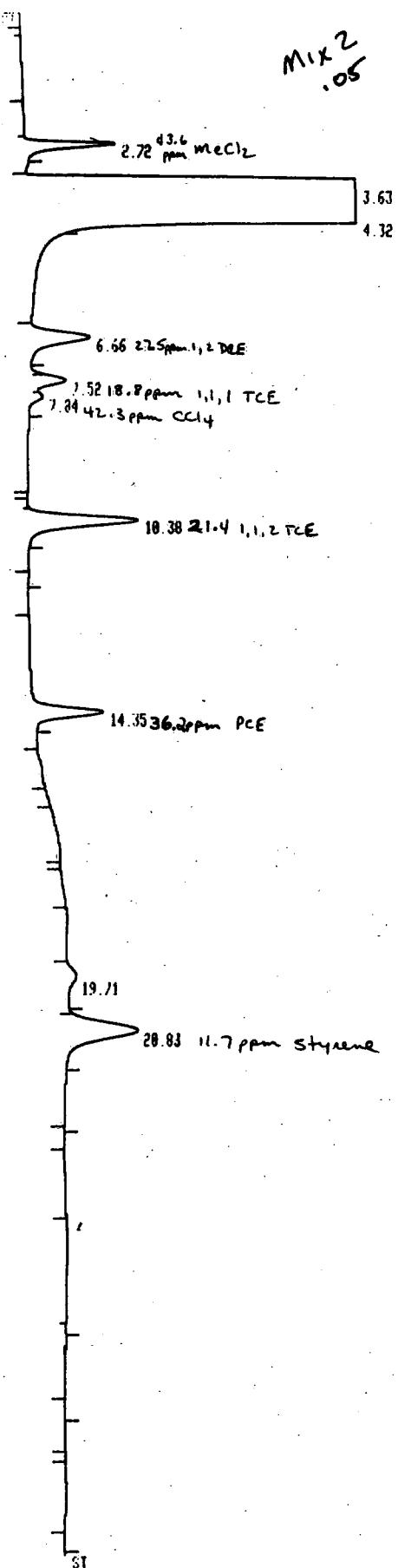
The Fit Coefficients are CO = 0.011 ± 2.79

The Index of Determination (r-squared) is 1.00000

Pecilm std
127

4/10/87

1% sp 1000 / carbopack C
3ml inj
N₂ blow 30 ml/min
70-1-10-220-19



RUN # 589

APR/11/87 18:16:45

AREA%	RT	AREA TYPE	AIR/HT	DREF%
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RUN # 589

APR/11/82 18:16:45

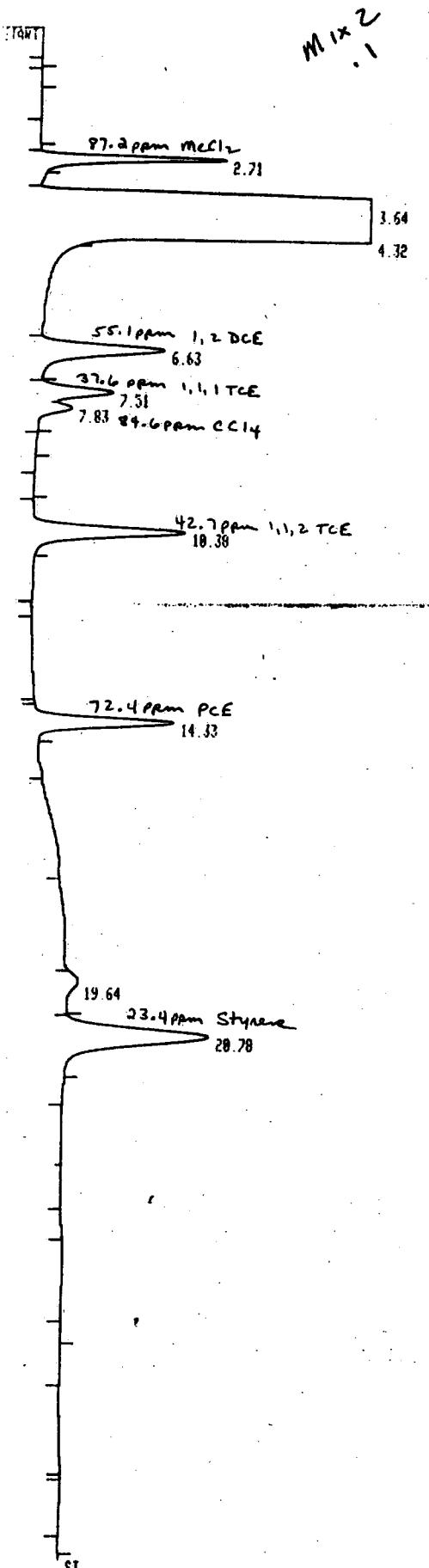
AREA%	RT	AREA	TYPE	AR/HT	AREA%
2.22		16900	PB	0.141	2.110
3.63		567310	PV	0.679	20.833
4.32		88952	VB	0.135	11.106
6.66		21929	PB	0.274	2.738
7.52		6843	BV	0.183	0.854
7.84		1926	VB	0.152	0.241
10.38		37656	VB	0.253	4.702
14.35		16938	PB	0.185	2.115
19.71		4684	PB	0.372	0.585
29.83		37768	BB	0.394	4.716

TOTAL AREA= 800900

MUL FACTOR= 1.0000E+00

PrecAm std
127

4/14/87



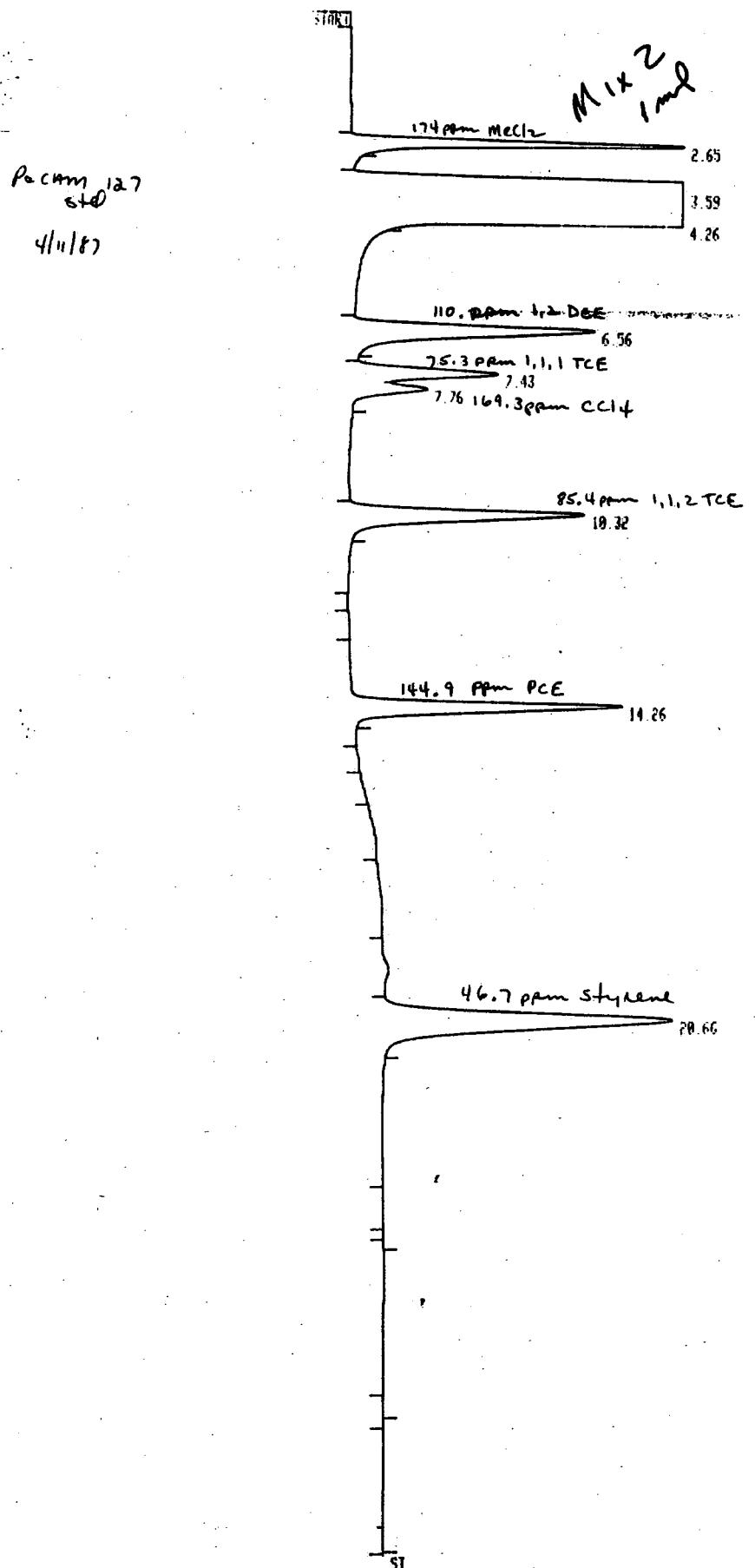
RUN # 591

APR/11/87 20:05:48

AREA%	RT	AREA	TYPE	AR/HT	AREA%
	2.71	35245	PB	0.141	3.748
	3.64	568498	PY	0.679	68.452
	4.32	88362	VB	0.134	9.396
	6.63	44503	PB	0.266	4.732
	7.51	22226	BV	0.225	2.363
	7.83	9289	VB	0.204	0.979
	10.38	51011	PB	0.248	5.424
	14.33	40248	BB	0.216	4.279
	19.64	4947	BB	0.318	0.526
	29.78	76172	BB	0.398	8.100

TOTAL AREA= 940410

MUL FACTOR= 1.0000E+00



RT AREA TYPE AR/HT AREA%

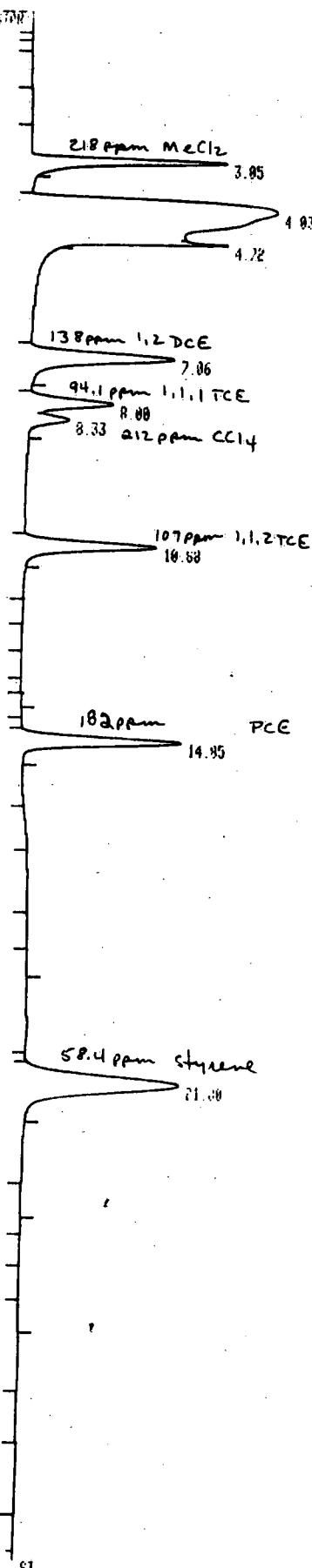
2.63	65984	PB	0.139	5.554
3.59	583020	PV	0.688	49.145
4.26	90567	VB	0.133	7.634
6.56	84615	PB	0.259	7.133
7.43	43261	BY	0.224	3.647
7.76	20234	VB	0.205	1.786
10.32	75468	PB	0.236	6.362
14.26	74965	PB	0.206	6.319
29.66	148300	BB	0.380	12.501

TOTAL AREA= 1186300
MUL FACTOR= 1.0000E+00

09

*M1
25*

Pecam
127 Std
4/11/87



RUN # 525

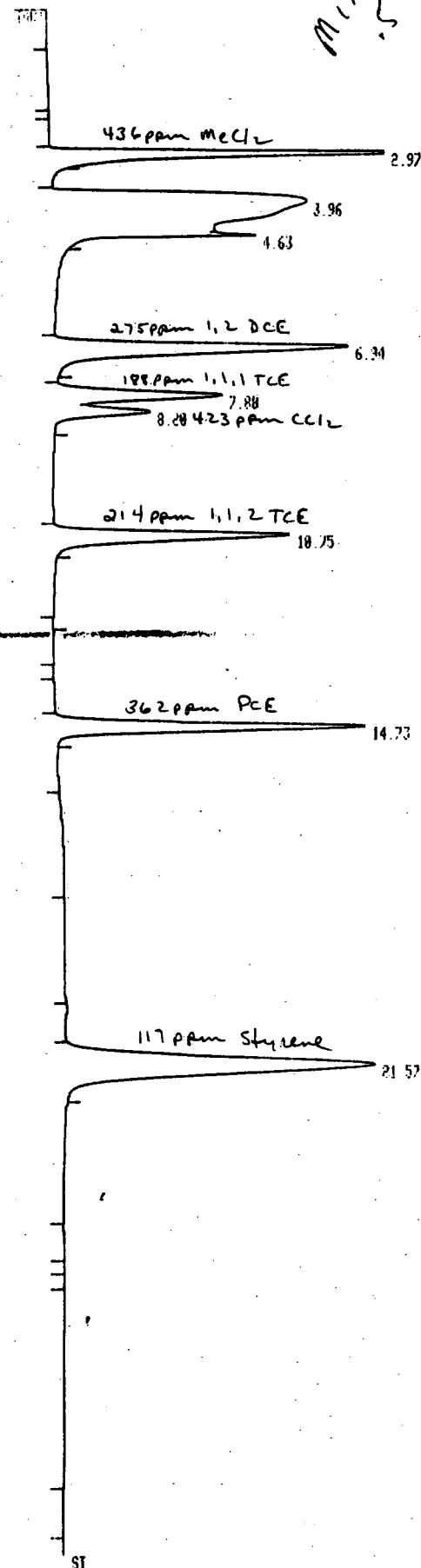
APR-11-82 05-22-10

AREAN	RT	AREA TYPE	AR/HT	AREA%
	3.05	72266 PB	0.138	7.041
	4.03	396760 PV	0.612	38.655
	4.72	75157 VB	0.161	7.322
	7.06	95366 PB	0.246	9.291
	8.00	46877 BV	0.208	4.567
	8.33	28740 VB	0.191	2.021
	10.00	75997 BB	0.214	7.404
	14.85	81446 BB	0.194	8.130
	21.00	159820 BB	0.386	15.570

TOTAL AREA= 1026400
MUL. FACTOR= 1.0000E+00

127 ppm Std

4/11/87



RUN # 577

APR/11/87 06:38:00

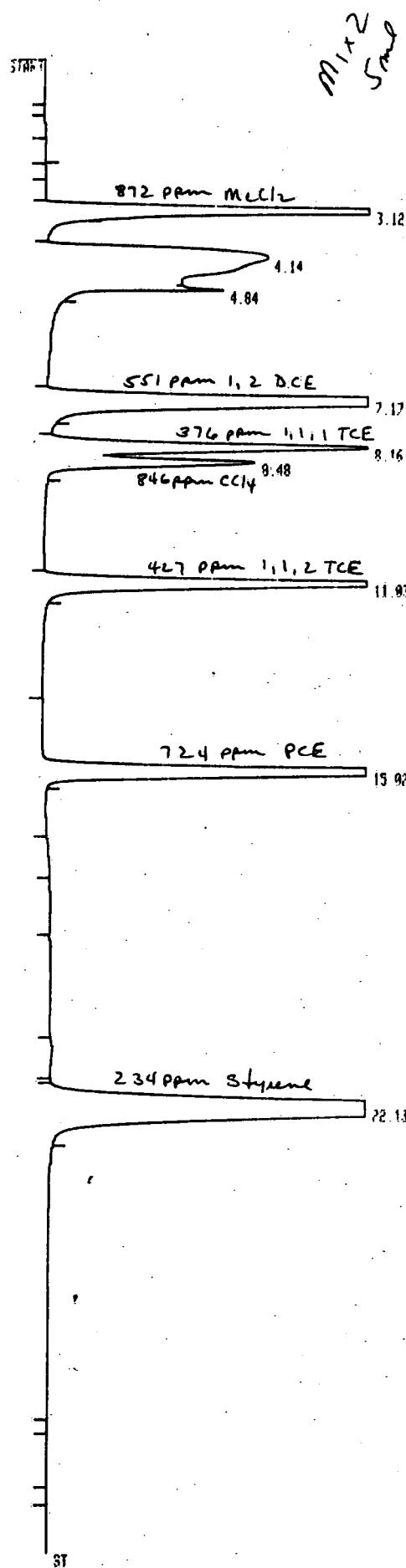
AREA%	RT	AREA	TYPE	AR/HT	AREA%
	2.97	144640	PB	0.136	9.858
	3.96	426810	PV	0.624	26.727
	4.63	85398	VB	0.164	5.348
	6.94	190020	PB	0.238	11.899
	7.88	93295	PV	0.206	5.842
	8.28	49256	VB	0.191	3.084
	10.75	131180	PB	0.205	8.209
	14.73	163140	PB	0.194	10.216
	21.57	313270	BB	0.375	19.617

TOTAL AREA= 1596900

MUL FACTOR= 1.0000E+00

PacChem 127
STD

4/11/87



RUN # 583

APR/11/82 10:25:52

AREA%	RT	AREA TYPE	AR/HT	AREA%
	3.12	277200	PB	0.131
	4.14	370600	PV	0.605
	4.84	86697	VB	0.177
	7.17	377030	PB	0.231
	8.16	185340	BV	0.204
	8.48	111410	VB	0.192
	11.03	238990	PB	0.195
	15.02	315670	PB	0.186
	22.13	627150	BB	0.388

TOTAL AREA= 2584400

MUL FACTOR= 1.0000E+00

G.C. CHROMATOGRAMS.

INSTRUMENT CONDITIONS

OVEN TEMPERATURE:

70 DEGREES CELSIUS FOR 1 MINUTE
RAMP 10 DEGREES CELSIUS A MINUTE
TO FINAL TEMPERATURE OF 220 DEGREES CELSIUS
HOLD FINAL TEMPERATURE FOR 14 MINUTES.

DETECTOR TEMPERATURE
AND TYPE:

FLAME IONIZATION DETECTOR
DETECTOR TEMPERATURE WAS 300 DEGREES CELSIUS.

COLUMN:

1% SP1000 ON CARBOPACK B

SENSITIVITY:

ATTENUATION 10 - 10

OTHER CONDITIONS:

N2 CARRIER GAS AT 20 ML/MINUTE
1 UL INJECTION
TOTAL RUN TIME 35 MINUTES
DATA ACQUIRED ON NELSON ANALYTICAL
TURBOCHROM SYSTEM



P.O. Box 3108, Princeton, N.J. 08540

 U.S. Route 1
Princeton Service Center
(609) 452-9050

**QUALITY
CONTROL REPORT**
Matrix Spike Analysis

JOB NO.	87G3452
ANALYST:	Pat Zaworski
DATE:	9/11/87
MATRIX:	air
METHOD:	PCAM 127

COMPOUND		Micrograms/Liter			% Recovery*
Sample ID	COMPOUND NAME	Sample Result (SR)	Spiked Sample Result (SSR)	Spike Added (SA)	
	chloroform	—	10.5	11.1	95
	Methyl Ethyl Ketone	—	6.3	7.2	88
	p-Dioxane	—	8.2	8.8	93
	Trichloroethylene	—	13.6	13.1	103
	Benzene	—	7.8	7.8	100
	Toluene	—	8.98	9.2	98

$$\text{*% Recovery} = \frac{(\text{SSR} - \text{SR})}{(\text{SA})} \times 100$$

J-4 87 G 3452 Enviosponse PCAM 127

9/10/87

101
1201 001
1202 002
003
004
005

desorb 1 ml CS₂ lot # 9172-5
for 40 min

Baker

190 SP 1000 carbopack B
70-1-10-220-19
Stop time 35 min
N₂ - 20 ml/min
1 ml inj = auto
Cotypters used

sub 15 from d

Mix 1	mW	conc ppm	RT	PA	X
acetone	58.1	58.5	3.40, 3.40	32.1, 36.1	34.1
CHCl ₃	119	46.7	6.33, 6.32	27.6, 26.8	27.2
MEK	72.1	79.8	6.67, 6.67	66.6, 72.3	69.5
β -Diox	88.1	125	7.75, 7.75	60.3, 67.4	63.9
TCE	131	87.8	9.92, 9.92	26.7, 30.0	28.4
δ	78.1	48.7	10.27, 10.27	76, 86	81
toluene	92.1	56	15.20, 15.2	87.8, 98.6	93.2
xylanes	104	59.6	21.18, 21.18 22.02 22.02	38.42 33.37	75
IS			19.80	124, 135	

Mix 2					
MeCl ₂	84.9	174.4	3.23, 3.22	32.1, 34.8	33.5
1,2 DCE	98.9	110	6.82, 6.80	49.9, 48.8	49.4
1,1,1 TCE	133	75.3	7.78, 7.77	21.5, 23.4	22.5
CCl ₄	154	169	8.05, 8.05	8.6, 9.5	9.1
1,1,2 TCE	133	85.4	10.5, 10.48	25.2, 31.4	28.3
PCE	166	145	14.23, 14.23	39.2, 42.9	41.1
styrene	104	46.7	21.0, 20.9	72.4, 78.9	75.8
IS			19.82, 19.8	127, 135	131

IS - 136, 131, 133 → X - 133

Acetone 6.05, 6.29, 6.4 X - 6.25

 δ contain 16.7, 13.96, 14.1 X = 15

9/11/87

		RT	PA	
Samp. 005	IS	19.8	122	
	Acetone	3.42	5	$\frac{122}{133} \times 100 = 94\%$
		10.27	14	acetone 58.5 ppm ($\frac{5}{34}$) ($\frac{100}{120}$) ($\frac{24.45}{58.1}$) = 0.031
Samp 001	1,1,1 TCE	7.77		$2.56 \text{ ppm } 48.7 \text{ ppm } (\frac{14}{81}) (\frac{100}{120}) (\frac{24.45}{58.1}) = 0.021$
	toluene	15.22		10.4
	IS	19.8	5	127
	Acetone	3.42	14	acetone 58.5 ppm ($\frac{5}{34}$) ($\frac{100}{120}$) ($\frac{24.45}{58.1}$) = 0.030
1,1,1 TCE	75.3 ppm ($\frac{2.56}{22.5}$) ($\frac{1}{120}$) ($\frac{24.45}{133}$) =	0.013	ND	$2.56 \text{ ppm } 48.7 \text{ ppm } (\frac{14}{81}) (\frac{100}{120}) (\frac{24.45}{58.1}) = 0.023$
Toluene	56 ppm ($\frac{10.4}{93.2}$) ($\frac{1}{120}$) ($\frac{24.45}{92.1}$) =	0.014 ppm		
IS	$\frac{127}{133} \times 100 = 96\%$			
Samp 002	1,1,1 TCE	78.75		5.18 acetone 3.42
		10.28		$\frac{126}{133} \times 100 = 92\%$
	toluene	15.22		11.38
	xylene	21.2		2.07
	IS	19.8		130
1,1,1 TCE	75.3 ppm ($\frac{5.18}{22.5}$) ($\frac{100}{120}$) ($\frac{24.45}{133}$) =	0.03	ND	acetone 58.5 ppm ($\frac{5}{34}$) ($\frac{100}{120}$) ($\frac{24.45}{58.1}$) = 0.036
toluene	56 ppm ($\frac{11.38}{93.2}$) ($\frac{100}{120}$) ($\frac{24.45}{92.1}$) =	0.015 ppm		$48.7 \text{ ppm } (\frac{14}{81}) (\frac{100}{120}) (\frac{24.45}{58.1}) = 0.025$
xylene	59.6 ppm ($\frac{2.07}{40}$) ($\frac{100}{120}$) ($\frac{24.45}{106}$) =	0.010 ppm		
IS	$\frac{126}{133} \times 100 = 98\%$	acetone 3.42	5	
		$\frac{10.28}{133} \times 100 = 7.75$	14	
	acet 58.5 ppm ($\frac{5}{34}$) ($\frac{100}{120}$) ($\frac{24.45}{58.1}$) =	0.008 mg		
	$\frac{126}{133} \times 100 = 95\%$	$\frac{10.28}{133} \times 100 = 7.75$	14	
$\frac{10.28}{133} \times 100 = 7.75$		14		
Samp 003	IS	19.8		
		$\frac{126}{133} \times 100 = 95\%$		
Samp 004	1,1,1 TCE	7.75		5.31 acet 3.4 4
	toluene	15.2		9.47 $\frac{129}{133} \times 100 = 10.27$ 15
	IS	19.8		129
1,1,1 TCE	75.3 ppm ($\frac{5.31}{22.5}$) ($\frac{100}{97.5}$) ($\frac{24.45}{133}$) =	0.034	ND	acet 58.5 ppm ($\frac{5}{34}$) ($\frac{100}{120}$) ($\frac{24.45}{58.1}$) = 0.031
toluene	56 ppm ($\frac{9.47}{93.2}$) ($\frac{100}{97.5}$) ($\frac{24.45}{92.1}$) =	0.016 ppm		$48.7 \text{ ppm } (\frac{14}{81}) (\frac{100}{120}) (\frac{24.45}{58.1}) = 0.021$
IS	$\frac{129}{133} \times 100 = 97\%$			

Patricia Jaworski
Date _____

J# 2027 Hous &
Mallow
J# 8763452
Enviosponal
Bz NB #6 pg 11

blank Processed: 09-10-1987 22:42:08, segment 1, cycle 1
AW DATA SAVED IN FILE J:T-11.PTS

***** AREA PERCENT REPORT *****

***** 09-10-1987 22:42:19 Version 4.1 *****

Sample Name: blank Instrument Data File: J:T-11 *

Date: 09-10-1987 22:42:16 Method: G:MFID *

Interface: 13 Cycle#: 1 Operator FMZ Channel#: 0 Vial#: N.A. *

Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *

Solvent Description: *

Conditions: 70-1-10-220- 19 *

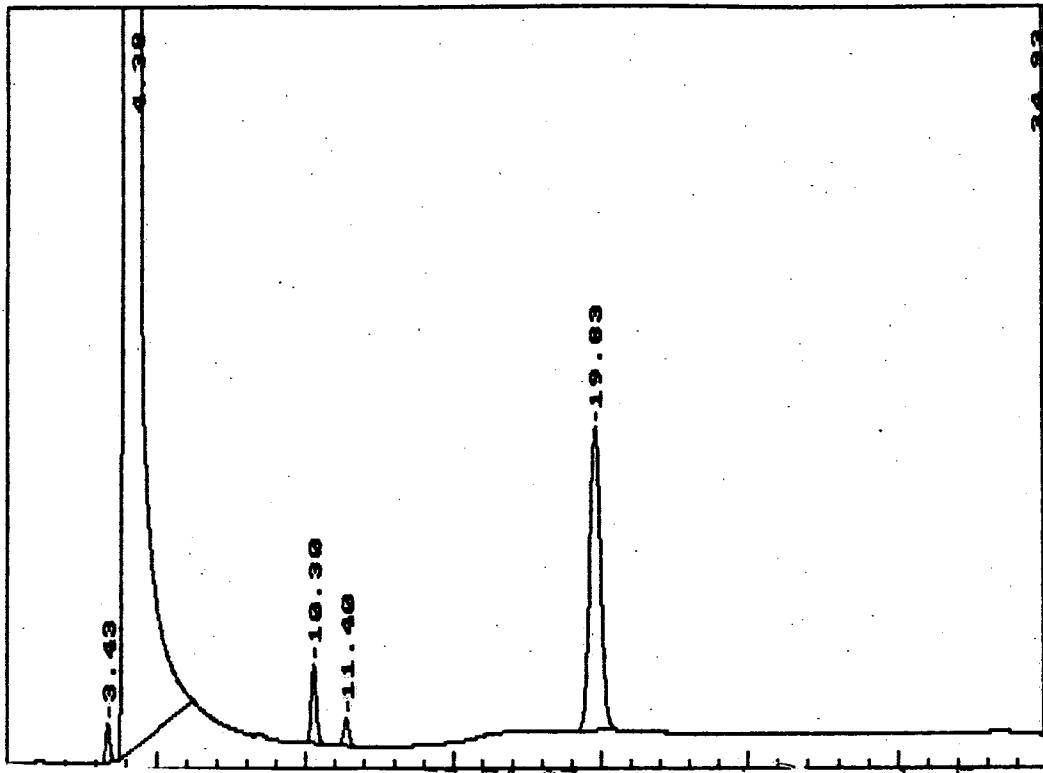
Detector 0: Detector 1: FID *

Misc. Information: PCAM 127 *

Starting Delay: 0.00 Run Time: 0.00

k lo.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	3.43 acetone	6047	0.2934	1	696	0.344	8.7
	4.38 CS2	1758017	85.2903	1	50359	100.000	34.9
	10.30 *	16744	0.8123	1	1407	0.952	11.9
4	11.40	6026	0.2924	1	493	0.343	12.2
5	19.83 IS	135633	6.5802	1	5416	7.715	25.0
6	34.93	138748	6.7314	1	108201	7.892	1.3
Total Area:		2061215	Area Reject:		0	One sample per 1.000 sec.	

Data File = J:T-11.PTS Printed on 09-10-1987 at 22:42:25
Start time: 0.00 min. Stop time: 35.00 min. Offset: 0 mv.
Low Value: 4988 uv High Value: 113687 uv Scale factor: 8.0



MIX 1 STD Processed: 09-10-1987 23:23:16, segment 2, cycle 2
RAW DATA SAVED IN FILE J:T-22.PTS

***** AREA PERCENT REPORT *****

***** 09-10-1987 23:23:28 Version 4.1 *****
k Sample Name: MIX 1 STD Data File: J:T-22 *
k Date: 09-10-1987 23:23:24 Method: G:MFID *
k Interface: 13 Cycle#: 2 Operator PMZ Channel#: 0 Vial#: N.A. *
k Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

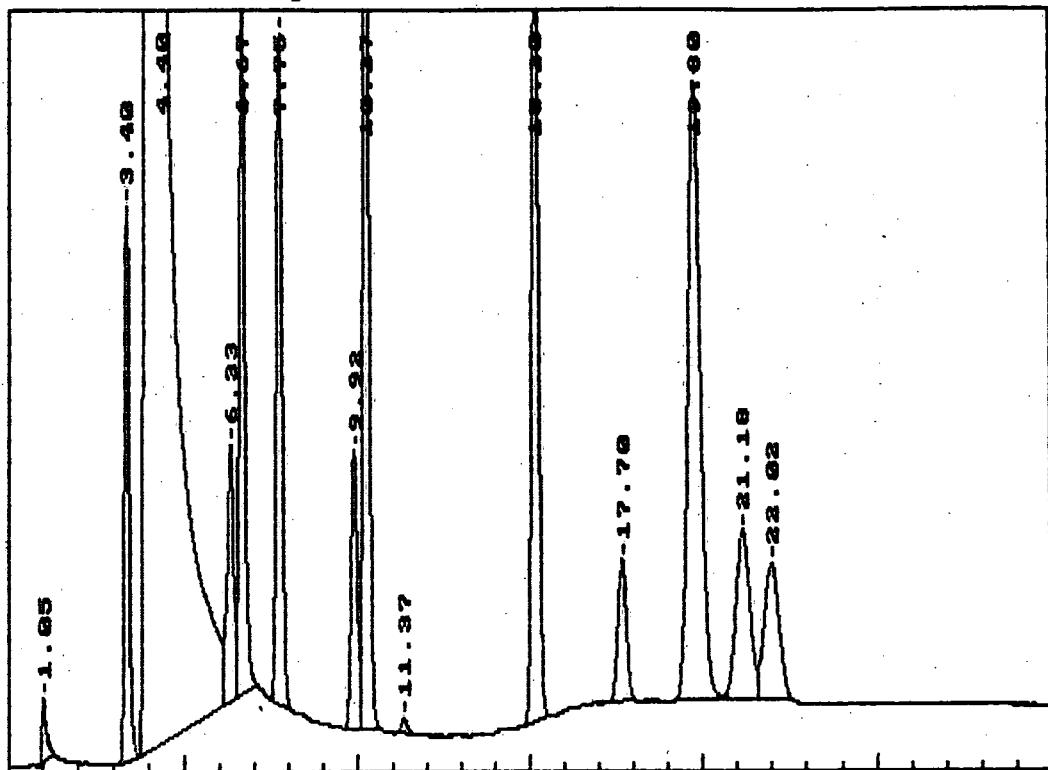
k Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *
k Solvent Description: *
k Conditions: 70-1-10-220- 19 *
k Detector 0: Detector 1: FID *
k Misc. Information: PCAM 127 *

Starting Delay: 0.00 Run Time: 0.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.05	4359	0.1928	1	514	0.265	8.5
	3.40 Toluene	38333	1.6955	1	4485	2.333	8.5
4	4.40	1643251	72.6826	2	48861	100.000	33.6
5	6.33 CHCl₃	27558	1.2189	2	2067	1.677	13.3
6	6.67 MEK	66583	2.9450	2	5953	4.052	11.2
7	7.75 p-Diox	60319	2.6680	1	5420	3.671	11.1
8	9.92 TCE	26676	1.1799	2	2237	1.623	11.9
9	10.27 Ø	91081	4.0286	2	7703	5.543	11.8
10	11.37	1276	0.0564	1	113	0.078	11.3
11	15.20 Toluene	87833	3.8849	1	6883	5.345	12.8
12	17.70	19411	0.8586	1	1140	1.181	17.0
13	19.80 TS	123678	5.4704	2	4987	7.526	24.8
14	21.18 tolylene	37969	1.6794	2	1361	2.311	27.9
	22.02	32532	1.4389	2	1087	1.980	29.9

Total Area: 2260859 Area Reject: 0 One sample per 1.000 sec.

Data File = J:T-22.PTS Printed on 09-10-1987 at 23:23:34
Start time: 0.00 min. Stop time: 30.00 min. Offset: 0 mv.
Low Value: 4995 uv High Value: 54057 uv Scale factor: 8.0



MIX 2 STD Processed: 09-11-1987 00:04:26, segment 3, cycle 3
RAW DATA SAVED IN FILE J:T-33.PTS

***** AREA PERCENT REPORT *****

***** 09-11-1987 00:04:38 Version 4.1 *****

Sample Name: MIX 2 STD Data File: J:T-33 *

Date: 09-11-1987 00:04:35 Method: G:MFID *

Interface: 13 Cycle#: 3 Operator PMZ Channel#: 0 Vial#: N.A. *

Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *

Solvent Description: *

Conditions: 70-1-10-220- 19 *

Detector 0:

Detector 1: FID *

Misc. Information: PCAM 127 *

Starting Delay: 0.00 Run Time: 0.00

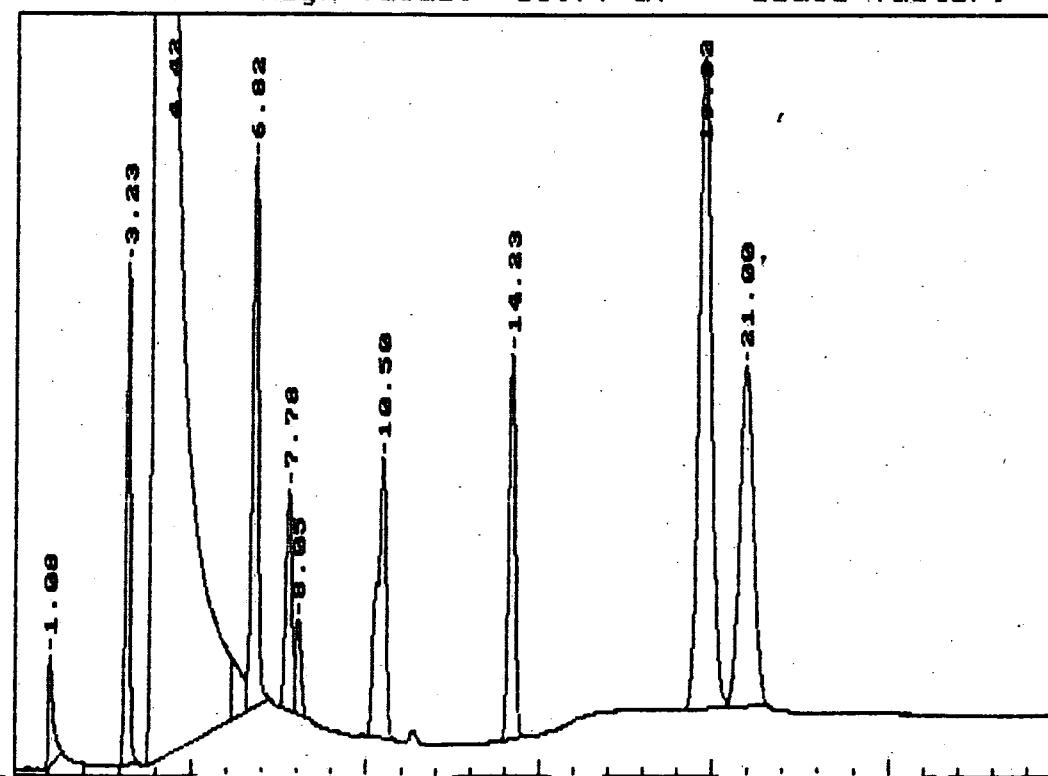
K o.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	1.08	8045	0.4062	1	875	0.509	9.2
2	3.23 methyl	32096	1.6204	1	3956	2.030	8.1
3	4.42 CS ₂	1581252	79.8314	2	47911	100.000	33.0
4	6.82 1,2 DCE	49846	2.5165	2	4324	3.152	11.5
5	7.78 1,1,1TCE	21464	1.0836	2	1762	1.357	12.2
6	8.05 CCl ₄	8571	0.4327	2	754	0.542	11.4
7	10.50 1,1,2TCE	40156	2.0273	1	2214	2.540	18.1
8	14.23 PCE	39208	1.9795	1	3055	2.480	12.8
9	19.82 IS	127475	6.4357	2	5161	8.062	24.7
10	21.00 styrene	72627	3.6667	2	2692	4.593	27.0

Total Area: 1980739 Area Reject: 0 One sample per 1.000 sec.

Data File = J:T-33.PTS Printed on 09-11-1987 at 00:04:44

Start time: 0.00 min. Stop time: 30.00 min. Offset: 0 mv.

Low Value: 5018 uv High Value: 53079 uv Scale factor: 8.0



***** AREA PERCENT REPORT *****

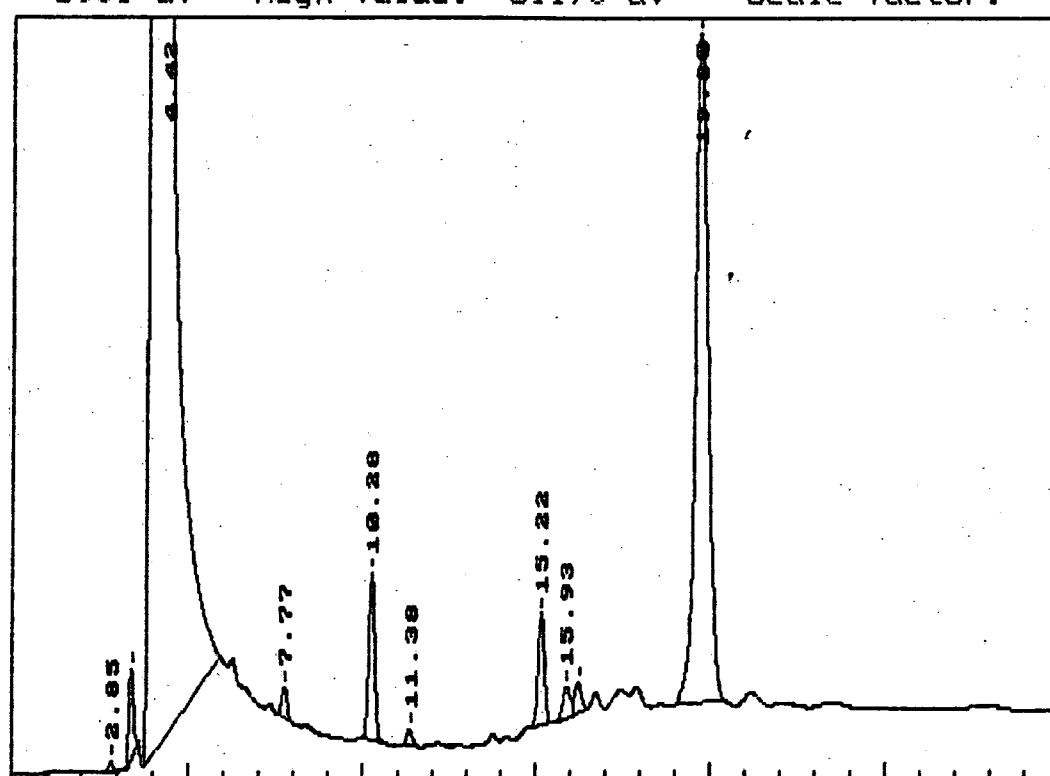
***** 09-11-1987 02:08:10 Version 4.1 *****
 * Sample Name: J#87G3452 01 F Data File: J:T-66 *
 * Date: 09-11-1987 02:08:07 Method: G:MFID *
 * Interface: 13 Cycle#: 6 Operator PMZ Channel#: 0 Vial#: N.A. *
 * Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *
 * Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *
 * Solvent Description: *
 * Conditions: 70-1-10-220- 19 *
 * Detector 0: Detector 1: FID *
 * Misc. Information: PCAM 127 *

 Starting Delay: 0.00 Run Time: 0.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	2.85	570	0.0350	1	81	0.039	7.0
2	3.42	5191	0.3191	1	679	0.356	7.6
3	4.42	1457824	89.6206	1	45841	100.000	31.8
4	7.77	2564	0.1576	1	243	0.176	10.6
5	10.28	14844	0.9125	1	1264	1.018	11.7
6	11.38	1333	0.0819	1	118	0.091	11.3
7	15.22 Toluene	10394	0.6390	1	837	0.713	12.4
8	15.93	3298	0.2028	2	236	0.226	14.0
9	16.27	3348	0.2058	2	225	0.230	14.9
10	19.80 IS	127297	7.8256	1	5077	8.732	25.1

Total Area: 1626661 Area Reject: 0 One sample per 1.000 sec.

Data File = J:T-66.PTS Printed on 09-11-1987 at 02:08:16
 Start time: 0.00 min. Stop time: 30.00 min. Offset: 0 mv.
 Low Value: 5001 uv High Value: 51170 uv Scale factor: 8.0



J# 87 G 34 Processed: 09-11-1987 07:37:09, segment 14, cycle 14
RAW DATA SAVED IN FILE J:T-1414.PTS

***** AREA PERCENT REPORT *****

***** 09-11-1987 07:37:21 Version 4.1 *****

* Sample Name: J# 87 G 3452 01 B Data File: J:T-1414 *

* Date: 09-11-1987 07:37:18 Method: G:MFID *

* Interface: 13 Cycle#: 14 Operator PMZ Channel#: 0 Vial#: N.A. *

* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

* Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *

* Solvent Description: *

* Conditions: 70-1-10-220- 19 *

* Detector 0: Detector 1: FID *

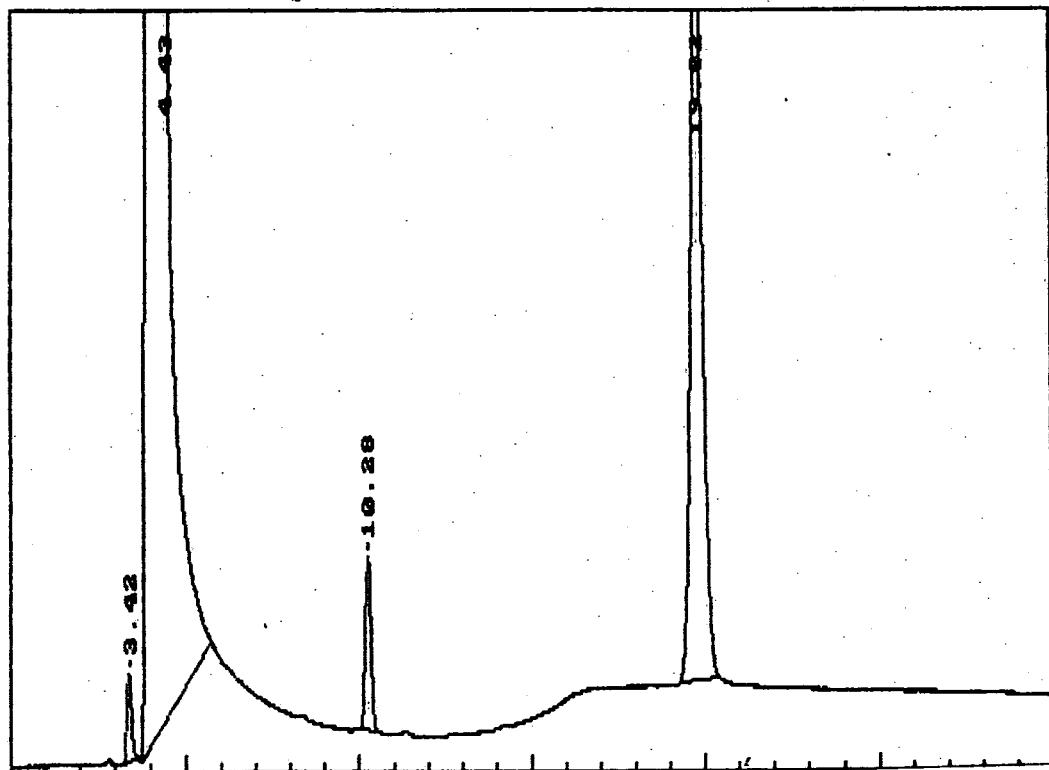
* Misc. Information: PCAM 127 *

Starting Delay: 0.00 Run Time: 0.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	3.42 Acetone	5173	0.3495	1	606	0.388	8.5
	4.43 CS2	1333651	90.1045	1	42368	100.000	31.5
	10.28 Ø	14046	0.9489	1	1217	1.053	11.5
4	19.82 IS	127247	8.5971	1	5319	9.541	23.9

Total Area: 1480116 Area Reject: 0 One sample per 1.000 sec.

Data File = J:T-1414.PTS Printed on 09-11-1987 at 07:37:27
Start time: 0.00 min. Stop time: 30.00 min. Offset: 0 mv.
Low Value: 4949 uv High Value: 47646 uv Scale factor: 8.0



J# 87 G 34 Proceed.

J#87G3452 Processed: 09-11-1987 02:49:07, segment 7, cycle 7
RAW DATA SAVED IN FILE J:T-77.PTS

***** AREA PERCENT REPORT *****

***** 09-11-1987 02:49:19 Version 4.1 *****

* Sample Name: J#87G3452 02 F Data File: J:T-77 *

* Date: 09-11-1987 02:49:16 Method: G:MFID *

* Interface: 13 Cycle#: 7 Operator PMZ Channel#: 0 Vial#: N.A. *

* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

* Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *

* Solvent Description: *

* Conditions: 70-1-10-220- 19 *

* Detector 0: Detector 1: FID *

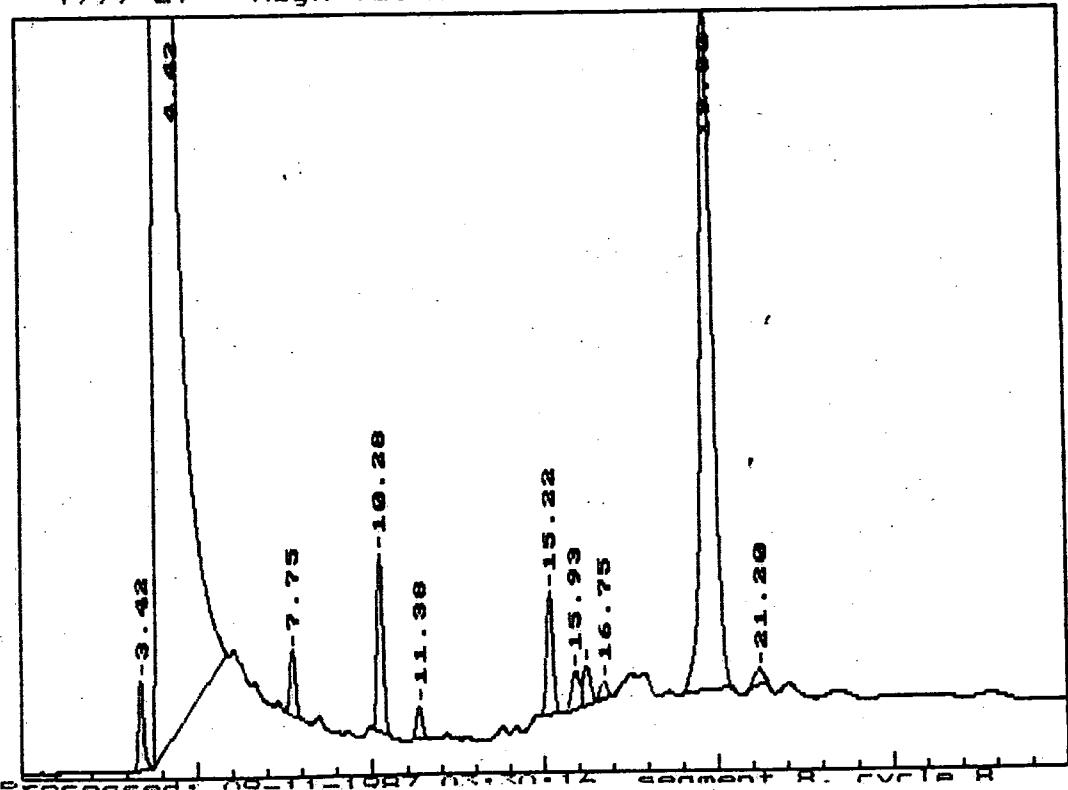
* Misc. Information: PCAM 127 *

Starting Delay: 0.00 Run Time: 0.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	3.42 acetone	6082	0.3740	1	669	0.422	9.1
	4.42 CS ₂	1442500	88.7209	1	45351	100.000	31.8
	7.75 1,1,1 TCE	5181	0.3187	1	476	0.359	10.9
4	10.28 δ	15650	0.9625	1	1328	1.085	11.8
5	11.38	2955	0.1817	1	252	0.205	11.7
6	15.22 toluene	11375	0.6996	1	911	0.789	12.5
7	15.93	3988	0.2453	2	274	0.276	14.6
8	16.25	4445	0.2734	2	284	0.308	15.6
9	16.75	1506	0.0926	2	117	0.104	12.9
10	19.80 IS	130137	8.0041	1	5195	9.022	25.1
11	21.20 xylene m,p	2068	0.1272	1	116	0.143	17.9

Total Area: 1625886 Area Reject: 0 One sample per 1.000 sec.

file = J:T-77.PTS Printed on 09-11-1987 at 02:49:25
Start time: 0.00 min. Stop time: 30.00 min. Offset: 0 mv.
Low Value: 4999 uv High Value: 50675 uv Scale factor: 8.0



***** AREA PERCENT REPORT *****

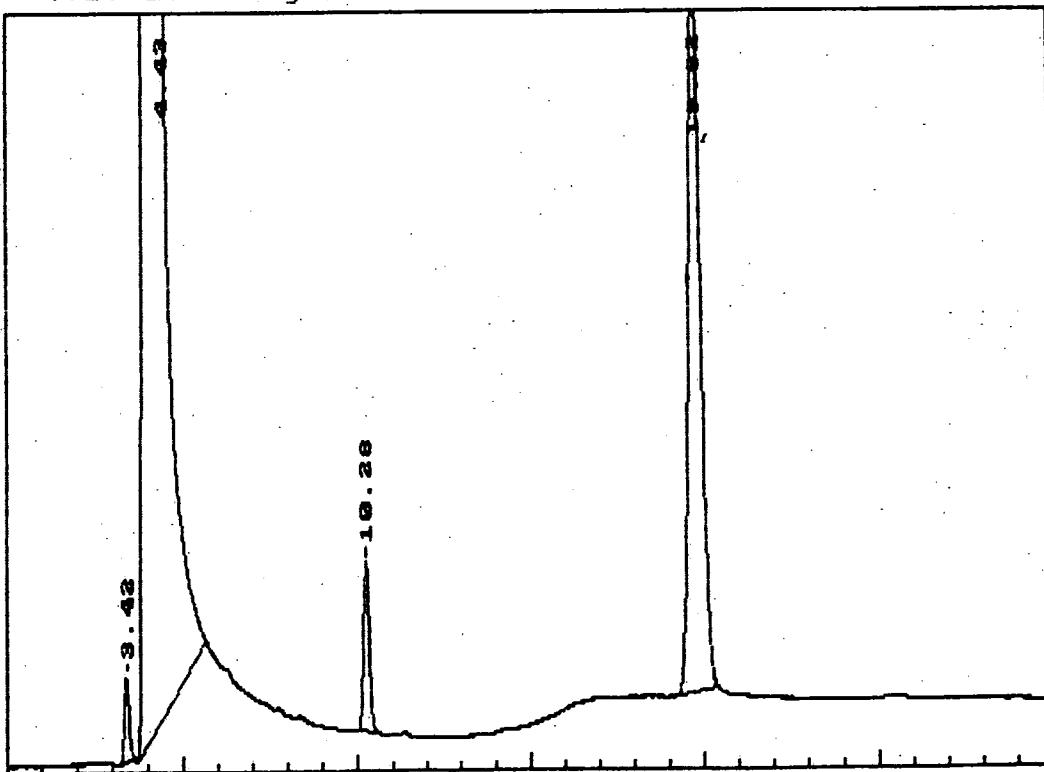
***** 09-11-1987 08:18:30 Version 4.1 *****
 * Sample Name: J# 87 G 3452 02 B Data File: J:T-1515 *
 * Date: 09-11-1987 08:18:27 Method: G:MFID *
 * Interface: 13 Cycle#: 15 Operator PMZ Channel#: 0 Vial#: N.A. *
 * Scarting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

 * Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *
 * Solvent Description: *
 * Conditions: 70-1-10-220- 19
 * Detector 0: Detector 1: FID
 * Misc. Information: PCAM 127

 Starting Delay: 0.00 Run Time: 0.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	3.42	Acetone	5092	0.3506	1	597	0.389 8.5
2	4.43	CS ₂	1309827	90.2018	1	41809	100.000 31.3
3	10.28	Ø	13648	0.9399	1	1177	1.042 11.6
4	19.82	IS	123541	8.5077	1	5152	9.432 24.0
Total Area:		1452108	Area Reject:		0	One sample per	1.000 sec.

Data File = J:T-1515.PTS Printed on 09-11-1987 at 08:18:36
 Start time: 0.00 min. Stop time: 30.00 min. Offset: 0 mv.
 Low Value: 4989 uv . High Value: 47144 uv Scale factor: 8.0



***** AREA PERCENT REPORT *****

***** 09-11-1987 03:30:28 Version 4.1 *****

Sample Name: J#87G3452 03 F Data File: J:T-88 *

Date: 09-11-1987 03:30:25 Method: G:MFID *

face: 13 Cycle#: 8 Operator PMZ Channel#: 0 Vial#: N.A. *

Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

***** Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *

Solvent Description: *

Conditions: 70-1-10-220- 19 *

Detector 0: *

Detector 1: FID *

Misc. Information: PCAM 127 *

Starting Delay: 0.00

Run Time: 0.00

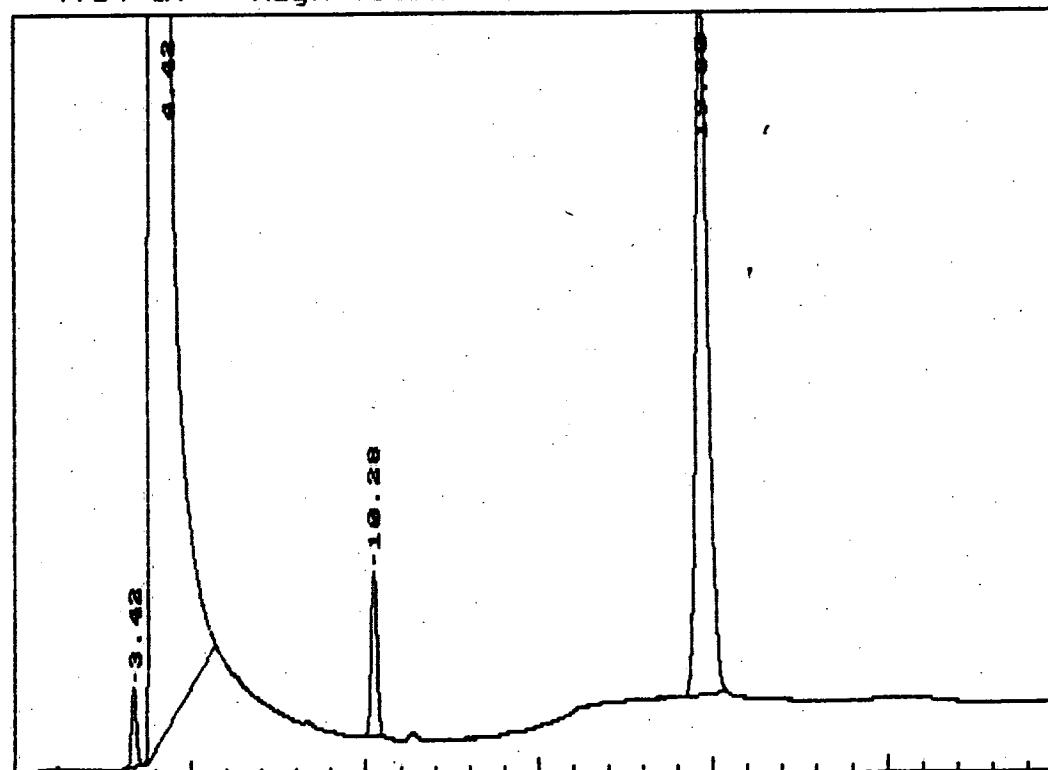
k	Ret o. Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	3.42 Acetone	5032	0.3227	1	579	0.356	8.7
2	4.42 CS2	1413735	90.6669	1	44732	100.000	31.6
3	10.28 Ø	14392	0.9230	1	1237	1.018	11.6
4	19.80 IS	126104	8.0874	1	5243	8.920	24.1

Total Area: 1559262 Area Reject: 0 One sample per 1.000 sec.

Data File = J:T-88.PTS Printed on 09-11-1987 at 03:30:33

Start time: 0.00 min. Stop time: 30.00 min. Offset: 0 mv.

Low Value: 4984 uv High Value: 50078 uv Scale factor: 8.0



SEQUENCE RECORDED IN K:TIRED.SEQ

87 G 34 Processed: 09-11-1987 08:47:37, segment 16, cycle 16
RAW DATA SAVED IN FILE J:T-1616.PTS

***** AREA PERCENT REPORT *****

***** 09-11-1987 08:47:48 Version 4.1 *****

Sample Name: J# 87 G 3452 03 B Data File: J:T-1616 *

Date: 09-11-1987 08:47:45 Method: G:MFID *

Interface: 13 Cycle#: 16 Operator PMZ Channel#: 0 Vial#: N.A. *

Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

***** Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *

Solvent Description: *

Conditions: 70-1-10-220- 19 *

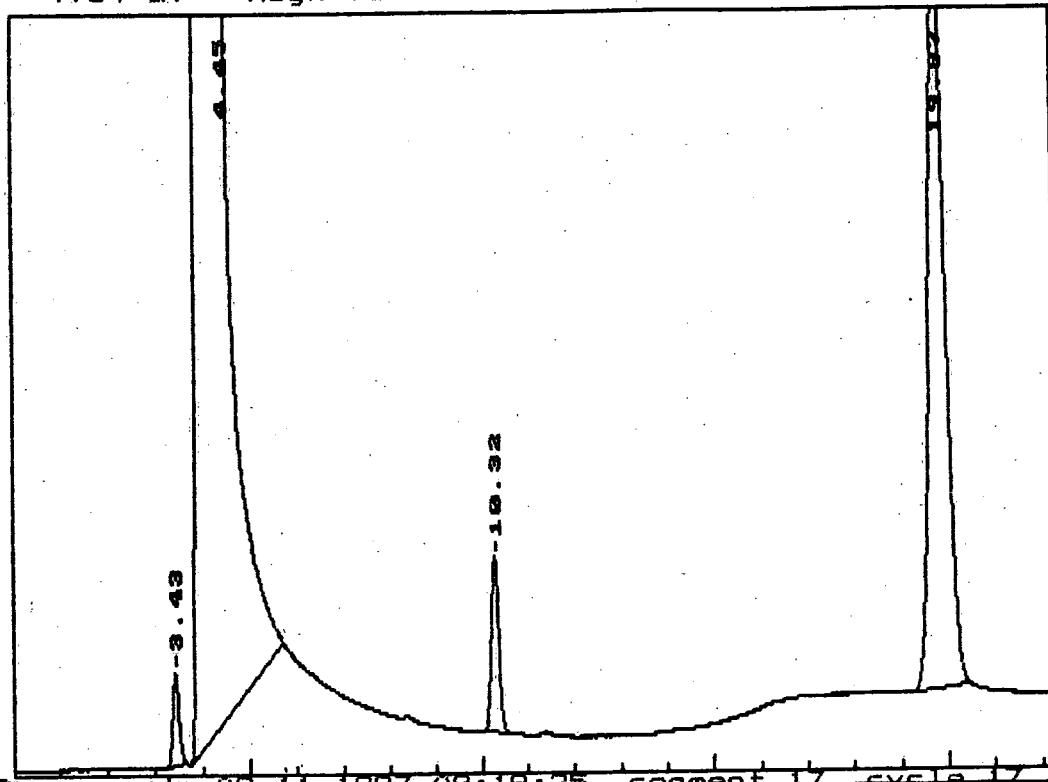
Detector 0: Detector 1: FID *

Misc. Information: PCAM 127 *

***** Starting Delay: 0.00 Run Time: 0.00 *

k.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	3.43 Acetone	5535	0.3801	1	649	0.422	8.5
	4.45 CS ₂	1311450	90.0563	1	41560	100.000	31.6
	0.32 Ø	13873	0.9526	1	1204	1.058	11.5
4	19.87 IS	125398	8.6110	1	5222	9.562	24.0
Total Area:		1456256	Area Reject:		0	One sample per 1.000 sec.	

ata File = J:T-1616.PTS Printed on 09-11-1987 at 08:47:54
start time: 0.00 min. Stop time: 22.33 min. Offset: 0 mv.
Low Value: 4984 uv High Value: 46877 uv Scale factor: 8.0



87.G.34 Processed: 09-11-1987 09:18:35 comment 17 cycle 17

J#87G3452 Processed: 09-11-1987 04:11:29, segment 9, cycle 9
RAW DATA SAVED IN FILE J:T-99.PTS

***** AREA PERCENT REPORT *****

***** 09-11-1987 04:11:41 Version 4.1 *****

* Sample Name: J#87G3452 04 F Data File: J:T-99 *

* Date: 09-11-1987 04:11:38 Method: G:MFID *

* Interface: 13 Cycle#: 9 Operator PMZ Channel#: 0 Vial#: N.A. *

* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

* Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *

* Solvent Description: *

* Conditions: 70-1-10-220- 19 *

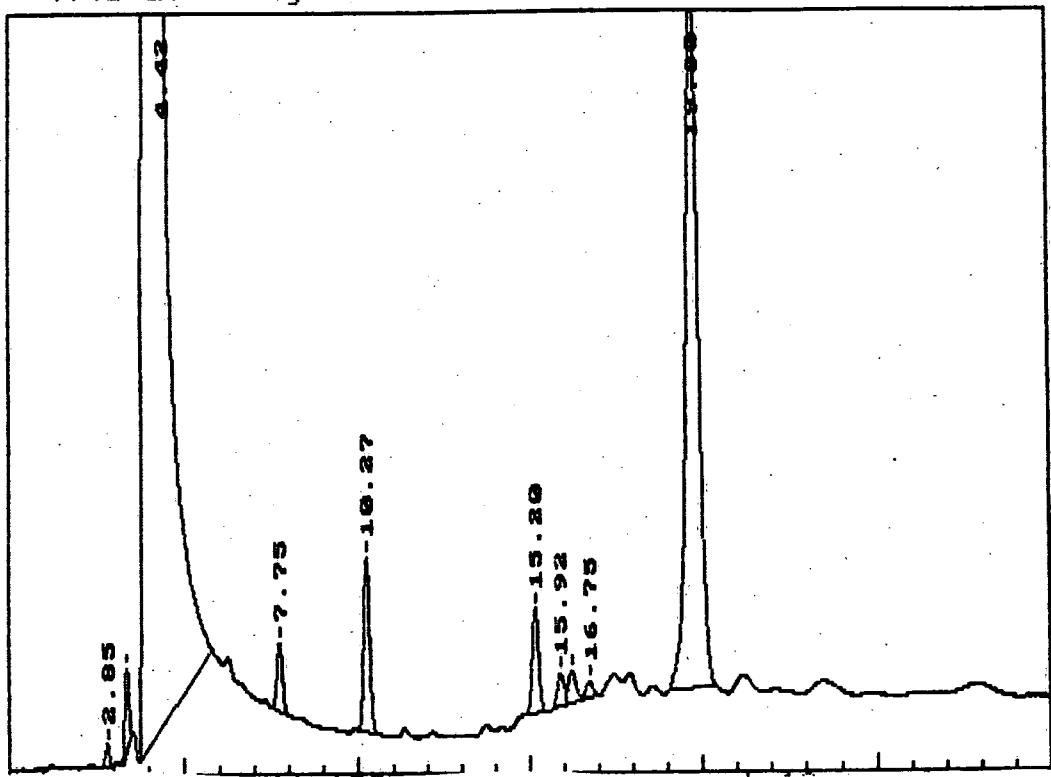
* Detector 0: Detector 1: FID *

* Misc. Information: PCAM 127 *

Starting Delay: 0.00 Run Time: 0.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
	2.85	1142	0.0727	1	160	0.082	7.2
	3.40 acetone	4151	0.2644	1	579	0.297	7.2
3	4.42 CS ₂	1397417	89.0037	1	44194	100.000	31.6
4	7.75 n,n,ITCE	5310	0.3382	1	498	0.380	10.7
5	10.27 \emptyset	14804	0.9429	1	1267	1.059	11.7
6	15.20 toluene	9473	0.6033	1	762	0.678	12.4
7	15.92	3317	0.2112	2	238	0.237	13.9
8	16.25	3646	0.2322	2	233	0.261	15.7
9	16.75	1529	0.0974	2	109	0.109	14.0
10	19.80 IS	129279	8.2340	1	5170	9.251	25.0
Total Area:		1570066	Area Reject:		0	One sample per 1.000 sec.	

Data File = J:T-99.PTS Printed on 09-11-1987 at 04:11:47
Start time: 0.00 min. Stop time: 30.00 min. Offset: 0 mv.
Low Value: 4946 uv High Value: 49475 uv Scale factor: 8.0



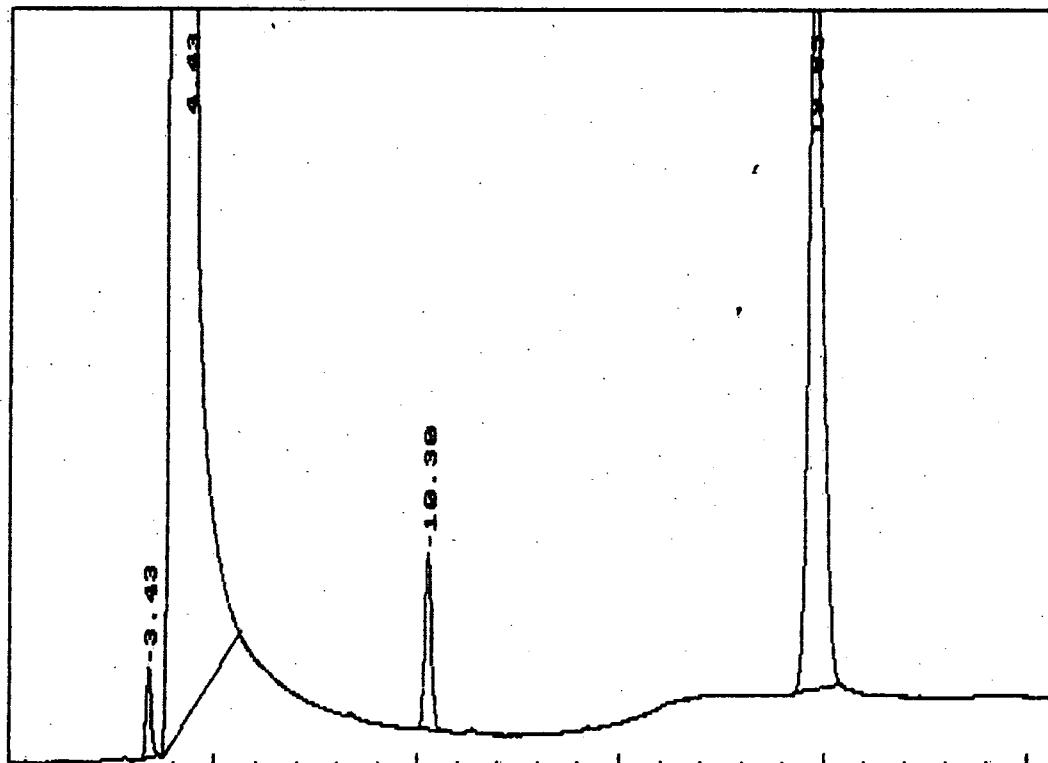
***** AREA PERCENT REPORT *****

***** 09-11-1987 09:18:37 Version 4.1 *****
* Sample Name: J# 87 G 3452 04.B Data File: J:T-1717 *
* Date: 09-11-1987 09:18:34 Method: G:MFID *
* Interface: 13 Cycle#: 17 Operator PMZ Channel#: 0 Vial#: N.A. *
* Rting Peak Width: 10 Threshold: 1 Area Threshold: 100 *
* ****
* Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *
* Solvent Description: *
* Conditions: 70-1-10-220- 19 *
* Detector 0: Detector 1: FID *
* Misc. Information: PCAM 127 *
***** Starting Delay: 0.00 Run Time: 0.00 *

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	3.43 Acetone	5395	0.3788	1	626	0.422	8.6
2	4.43 CS ₂	1279611	89.8543	1	41285	100.000	31.0
3	10.30 9'	13868	0.9738	1	1205	1.084	11.5
4	19.85 IS	125223	8.7931	1	5225	9.786	24.0

Total Area: 1424096 Area Reject: 0 One sample per 1.000 sec.

Data File = J:T-1717.PTS Printed on 09-11-1987 at 09:18:42
Start time: 0.00 min. Stop time: 25.75 min. Offset: 0 mv.
Low Value: 5000 uv High Value: 46655 uv Scale factor: 8.0



J#87G3452 Processed: 09-11-1987 01:26:51, segment 5, cycle 5
RAW DATA SAVED IN FILE J:T-55.PTS

***** AREA PERCENT REPORT *****

***** 09-11-1987 01:27:03 Version 4.1 *****

* Sample Name: J#87G3452 05 F Data File: J:T-55 *

* Date: 09-11-1987 01:26:59 Method: G:MFID *

* Interface: 13 Cycle#: 5 Operator PMZ Channel#: 0 Vial#: N.A. *

* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

* Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *

* Solvent Description: *

* Conditions: 70-1-10-220- 19 *

* Detector 0: Detector 1: FID *

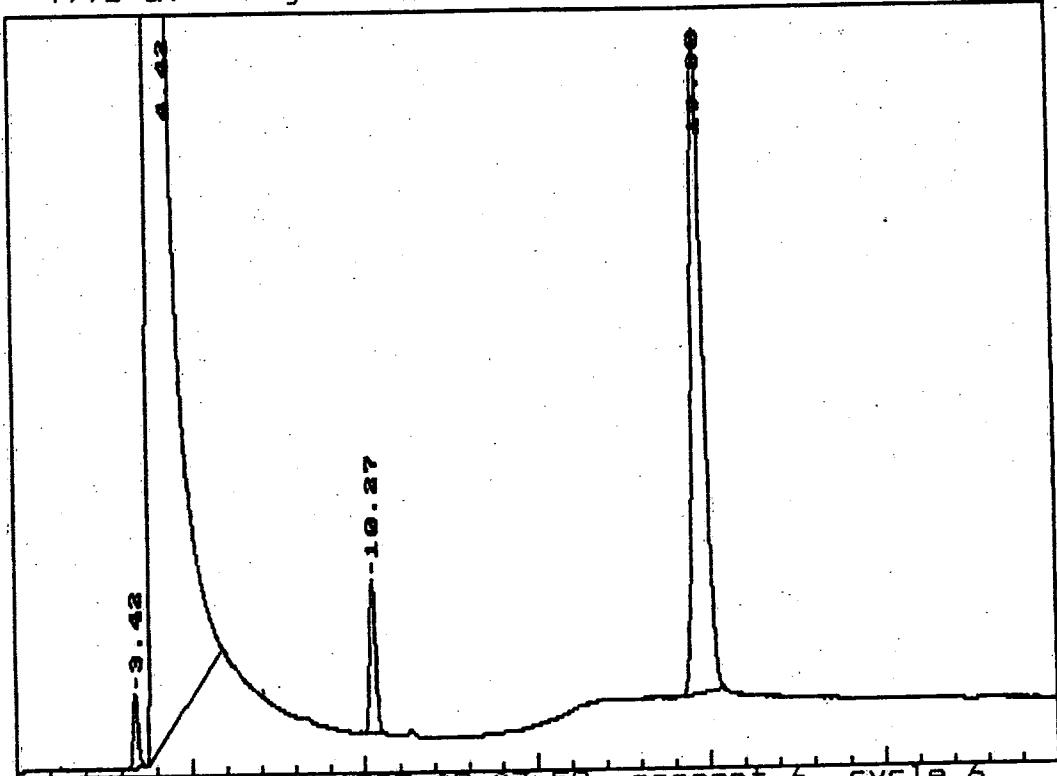
* Misc. Information: PCAM 127 *

Starting Delay: 0.00 Run Time: 0.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	3.42 Aetone	4884	0.3023	1	565	0.331	8.6
	4.42 CS ₂	1475377	91.3099	1	46372	100.000	31.8
	10.27 \emptyset	13957	0.8638	1	1185	0.946	11.8
4	19.80 IS	121573	7.5241	1	5000	8.240	24.3

Total Area: 1615791 Area Reject: 0 One sample per 1.000 sec.

Data File = J:T-55.PTS Printed on 09-11-1987 at 01:27:08
Start time: 0.00 min. Stop time: 30.00 min. Offset: 0 mv.
Low Value: 4998 uv High Value: 51686 uv Scale factor: 8.0



J#87G3452 Processed: 09-11-1987 02:07:58, segment 6, cycle 6
RAW DATA SAVED IN FILE J:T-66.PTS

***** 09-11-1987 06:56:13 Version 4.1 *****
* Sample Name: J# 87 G 3452 05 B Data File: J:T-1313 *
* Date: 09-11-1987 06:56:10 Method: G:MFID *
* Interface: 13 Cycle#: 13 Operator PMZ Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

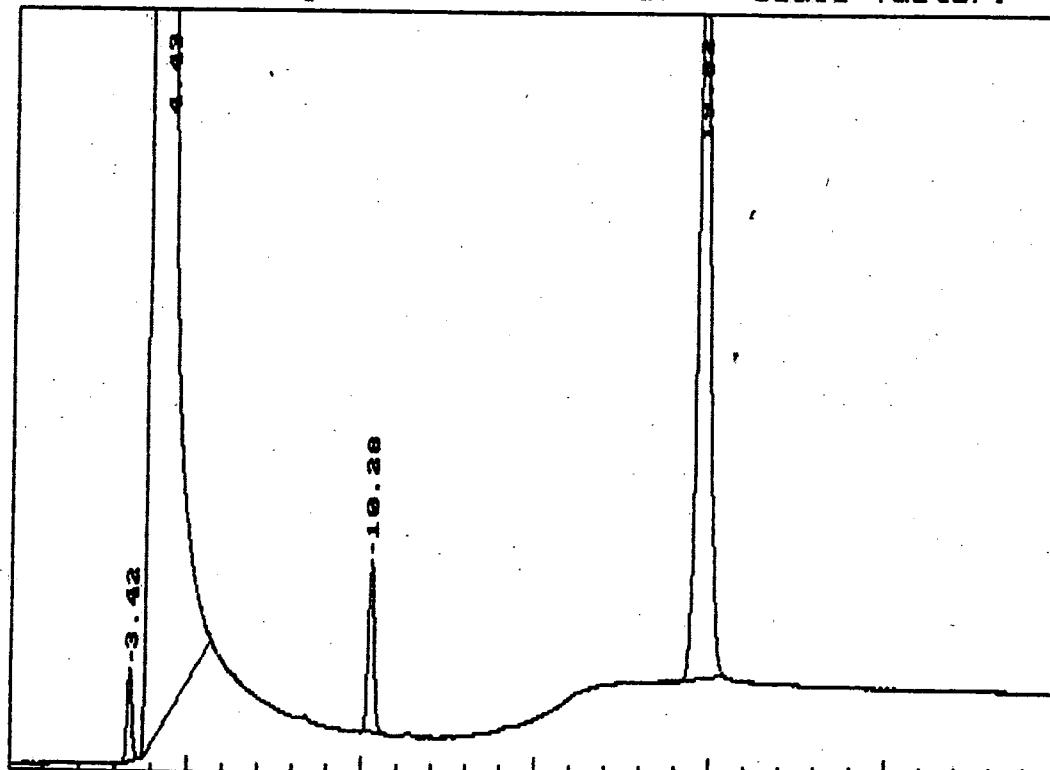
* Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *
* Solvent Description: *
* Conditions: 70-1-10-220- 19 *
* Detector 0: Detector 1: FID *
* Misc. Information: PCAM 127 *

Starting Delay: 0.00 Run Time: 0.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	3.42 Acetone	5533	0.3744	1	650	0.415	8.5
2	4.43 CS	1331914	90.1319	1	42564	100.000	31.3
3	10.28 d	14050	0.9508	1	1212	1.055	11.6
4	19.82 IS	126243	8.5429	1	5294	9.478	23.8

Total Area: 1477739 Area Reject: 0 One sample per 1.000 sec.

Data File = J:T-1313.PTS Printed on 09-11-1987 at 06:56:19
Start time: 0.00 min. Stop time: 30.00 min. Offset: 0 mv.
Low Value: 4990 uv High Value: 47901 uv Scale factor: 8.0



MIX 1 SPIK Processed: 09-11-1987 10:04:12, segment 1, cycle 18
RAW DATA SAVED IN FILE J:T-1818.PTS

***** AREA PERCENT REPORT *****

***** 09-11-1987 10:04:24 Version 4.1 *****

* Sample Name: MIX 1 SPIKE Data File: J:T-1818 *
* Date: 09-11-1987 10:04:21 Method: G:MFID *
* Interface: 13 Cycle#: 18 Operator PMZ Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *

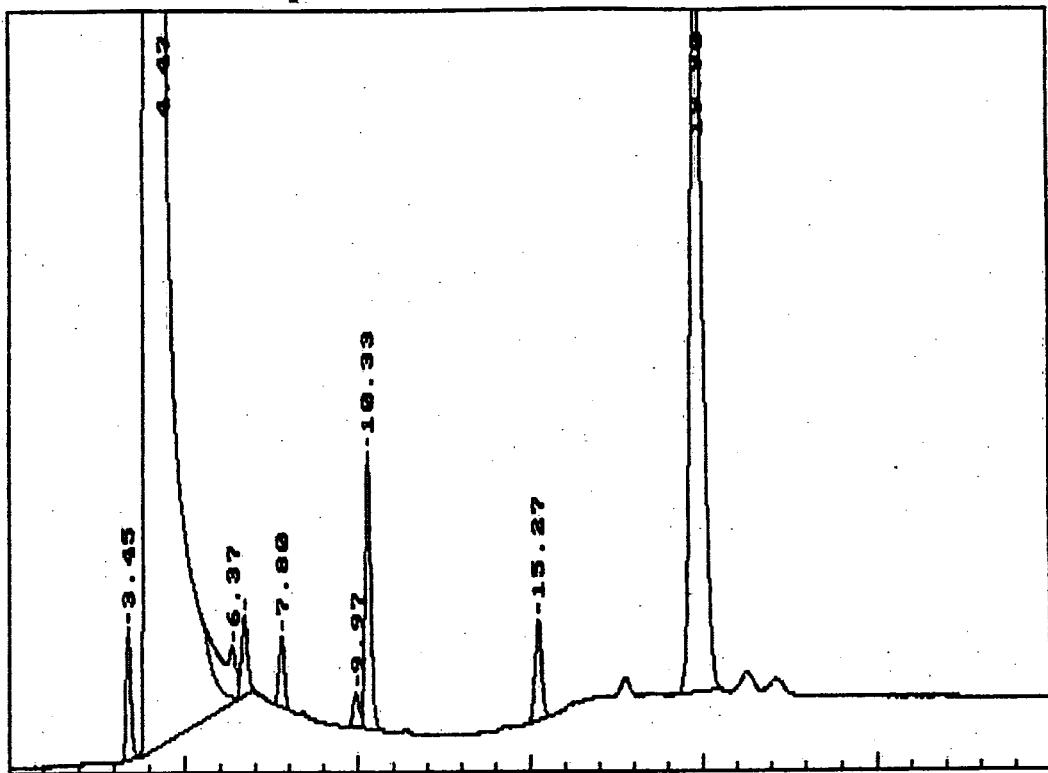
* Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *
* Solvent Description: *
* Conditions: 70-1-10-220- 19 *
* Detector 0: Detector 1: FID *
* Misc. Information: PCAM 127 *

Starting Delay: 0.00 Run Time: 0.00

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	3.45 Acetone	7729	0.5117	1	894	0.582	8.6
2	4.47 CS ₂	1328516	87.9545	3	41304	100.000	32.2
	6.37 CHCl ₃	5204	0.3446	4	348	0.392	14.9
	6.72 MEK	6701	0.4437	2	535	0.504	12.5
5	7.80 p-Diox	5293	0.3504	1	484	0.398	10.9
6	9.97 TCE	2669	0.1767	2	236	0.201	11.3
7	10.33 Ø	22183	1.4686	2	1890	1.670	11.7
8	15.27 Toluene	8451	0.5595	1	680	0.636	12.4
9	19.90 IS	123712	8.1904	1	5160	9.312	24.0

Total Area: 1510457 Area Reject: 0 One sample per 1.000 sec.

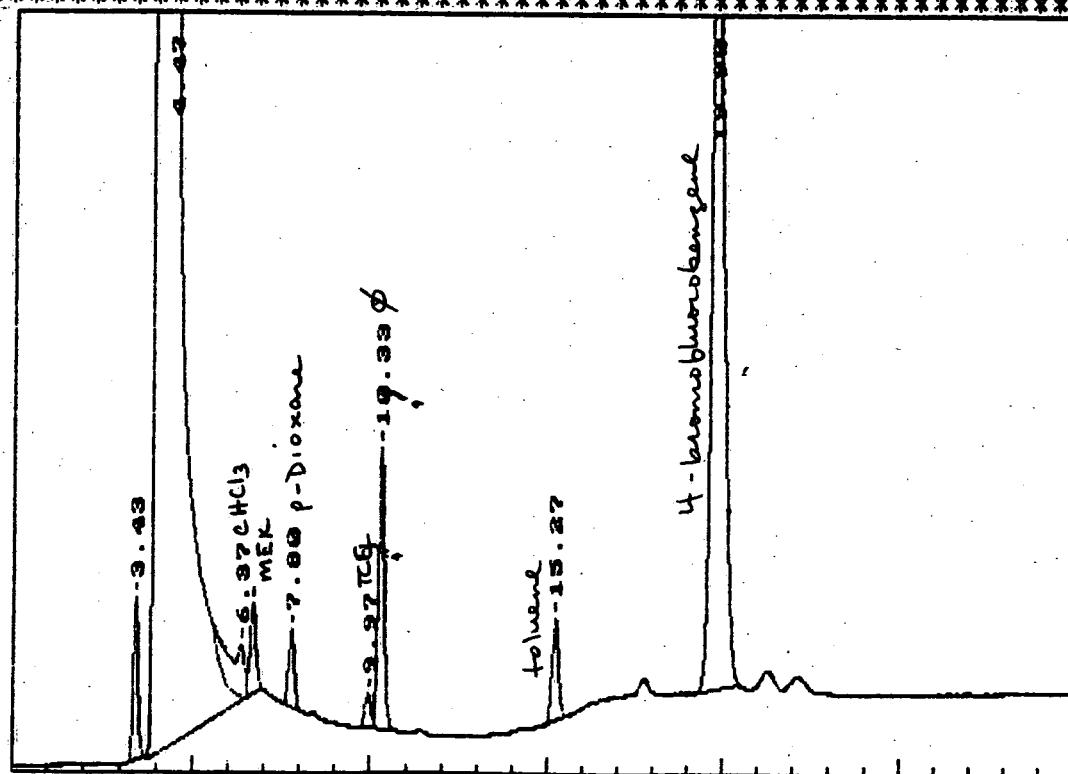
Data File = J:T-1818.PTS Printed on 09-11-1987 at 10:04:30
Start time: 0.00 min. Stop time: 30.00 min. Offset: 0 mv.
Low Value: 4951 uv High Value: 46423 uv Scale factor: 8.0



MIX 1 SPIK Processed: 09-11-1987 10:36:45, segment 2, cycle 19
RAW DATA SAVED IN FILE J:T-1919.PTS

***** AREA PERCENT REPORT *****

***** 09-11-1987 10:36:57 Version 4.1 *****
* Sample Name: MIX 1 SPIKE STD Data File: J:T-1919 *
* Date: 09-11-1987 10:36:54 Method: G:MFID *
* Interface: 13 Cycle#: 19 Operator PMZ Channel#: 0 Vial#: N.A. *
* Starting Peak Width: 10 Threshold: 1 Area Threshold: 100 *
* Instrument Type: VARIAN 3400/FID Column Type: SP 100/CP B *
* Solvent Description: *
* Conditions: 70-1-10-220- 19 *
* Detector 0: Detector 1: FID *
* Misc. Information: PCAM 127 *



SECTION IV

CALIBRATION CURVES

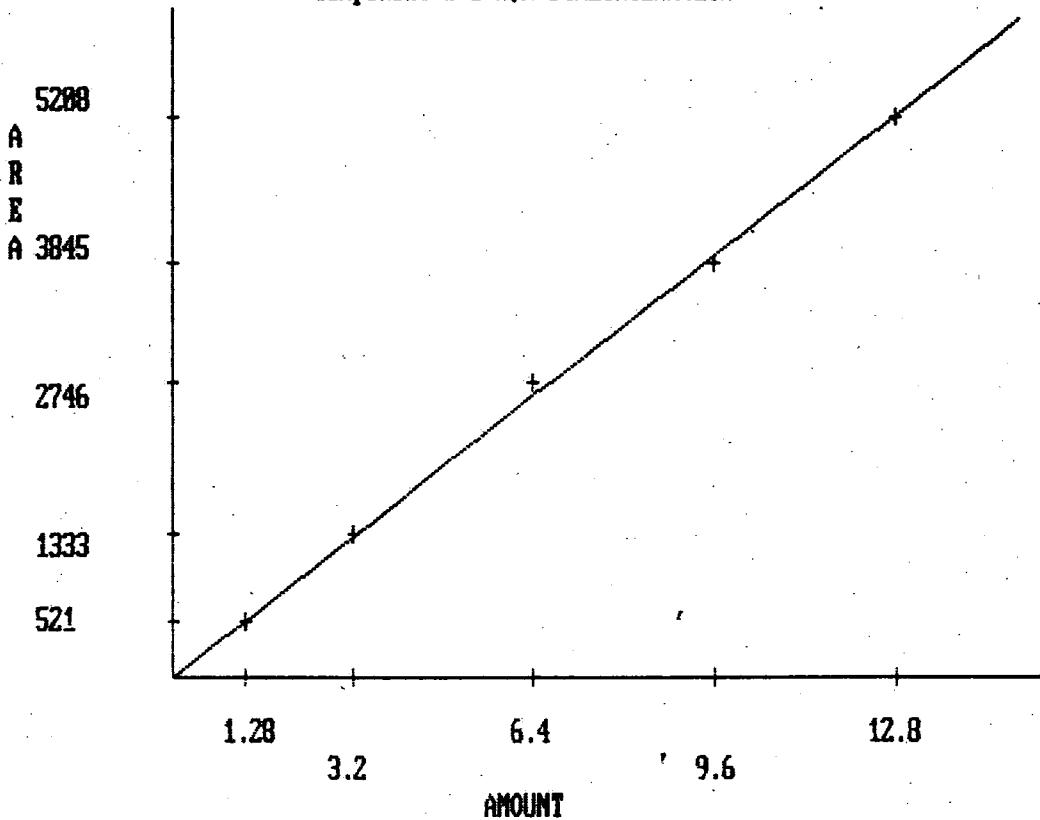
CORRELATION COEFFICIENT = 0.999

Method K:P&CAM168
Sample aromatic amines

Operator PMZ

Run date 09-18-1987 17:50:31 version: 2
Printed on 09-18-1987 AT 17:51:51
Straight Line Fit forced through Origin.

Component #1 N,N DIMETHYLANILIN



Component 1 = N,N DIMETHYLANILIN
EXTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA
1	1.2800	521
2	3.2000	1333
3	6.4000	2746
4	9.6000	3845
5	12.8000	5208

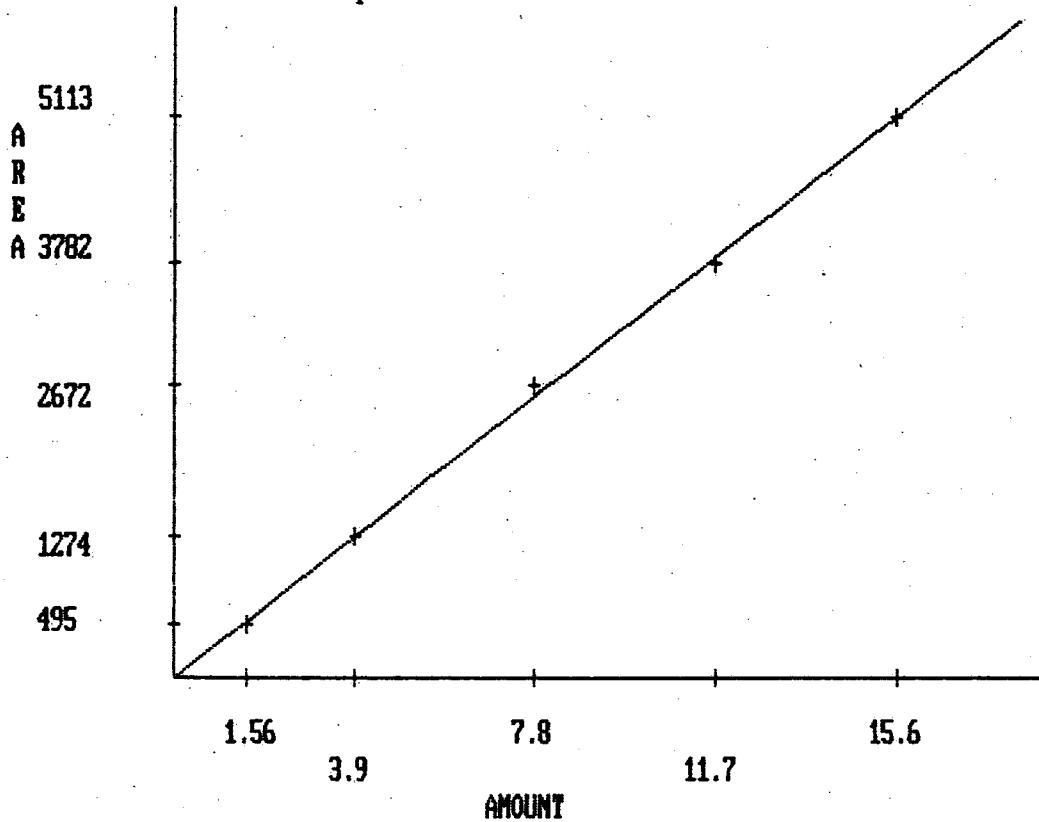
$$Y = \text{SLOPE} * X + \text{INTERCEPT}$$

oo

Area = $4.0824E+02 * \text{Amount} + 0.0000E+00$
Amount = $2.4495E-03 * \text{Area} + 0.0000E+00$

Method K:P&CAM168
 Sample aromatic amines
 Operator PMZ
 Run date 09-18-1987 17:55:36 version: 3
 Printed on 09-18-1987 AT 17:56:22
 Straight Line Fit forced through Origin.

Component #1 ANILINE



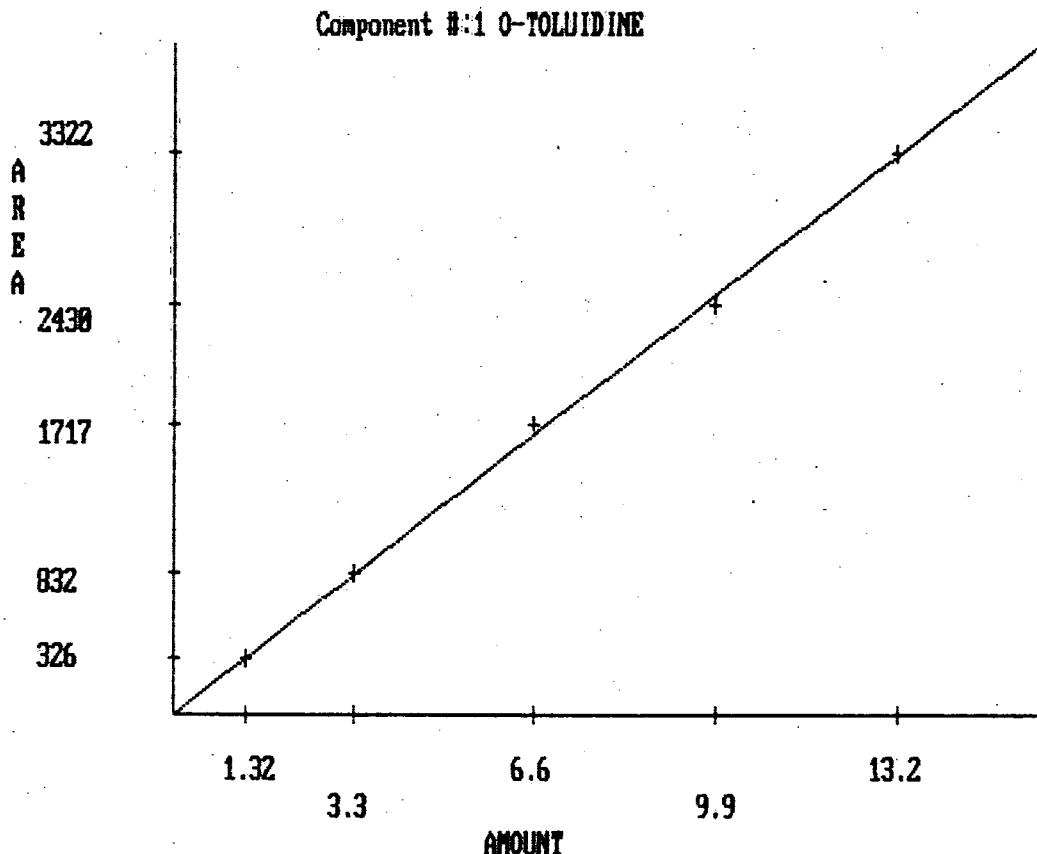
Component 1 = ANILINE
EXTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA
1	1.5600	495
2	3.9000	1274
3	7.8000	2672
4	11.7000	3782
5	15.6000	5113

$Y = \text{SLOPE} * X + \text{INTERCEPT}$
 DDD
 Area = 3.2828E+02 * Amount + 0.0000E+00
 Amount = 3.0461E-03 * Area + 0.0000E+00
 Correlation Coefficient = 0.9997

Method K:P&CAM168
Sample aromatic amines
Operator PMZ

Run date 09-18-1987 17:58:49 version: 4
Printed on 09-18-1987 AT 17:59:30
Straight Line Fit forced through Origin.



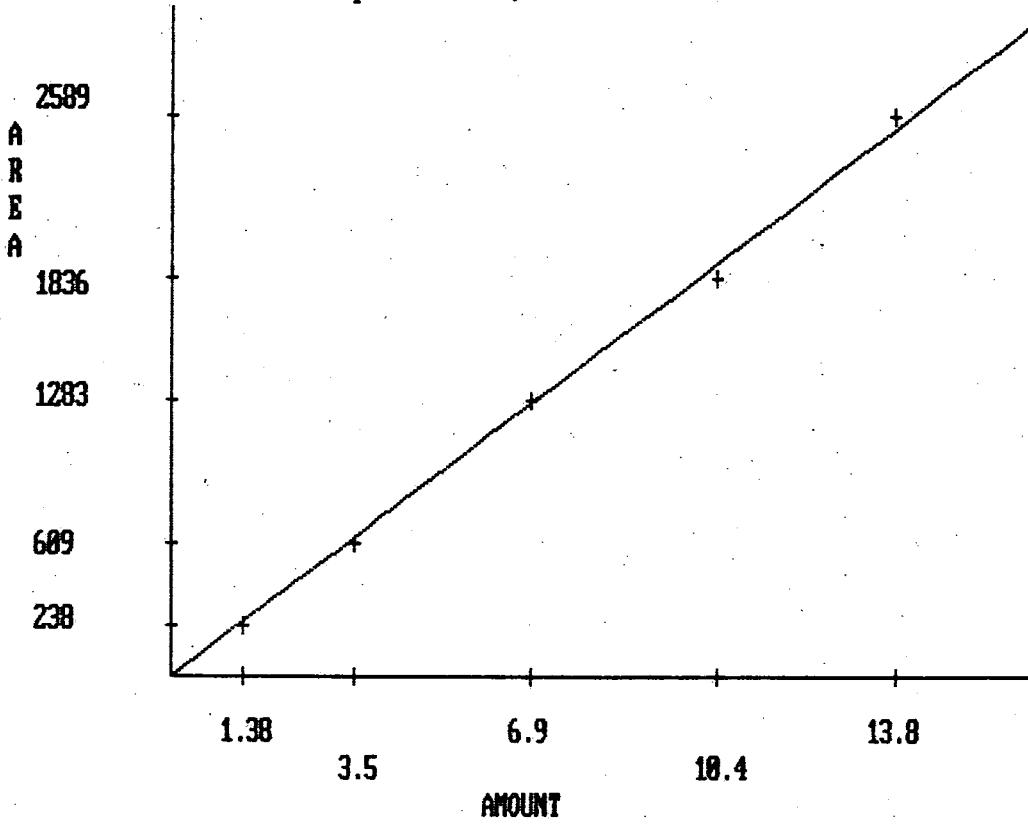
Component 1 = O-TOLUIDINE
EXTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA
1	1.3200	326
2	3.3000	832
3	6.6000	1717
4	9.9000	2430
5	13.2000	3322

Y = SLOPE * X + INTERCEPT
DD
Area = 2.5093E+02 * Amount + 0.0000E+00
Amount = 3.9852E-03 * Area + 0.0000E+00
Correlation Coefficient = 0.9997

Method K:P&CAM168
 Sample aromatic amines
 Operator PMZ
 Run date 09-18-1987 18:01:46 version: 5
 Printed on 09-18-1987 AT 18:02:07
 Straight Line Fit forced through Origin.

Component #:1 2,4DIMETHYLANILINE



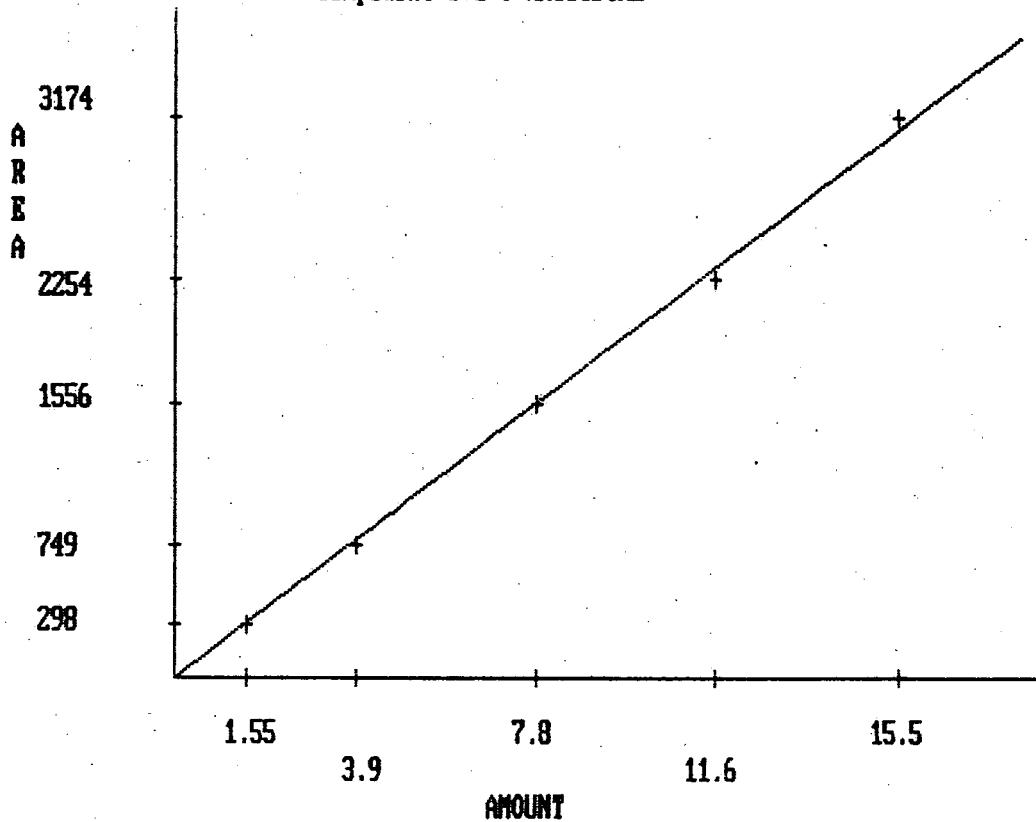
Component 1 = 2,4DIMETHYLANILINE
 EXTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA
1	1.3800	238
2	3.5000	609
3	6.9000	1283
4	10.4000	1836
5	13.8000	2589

$$\begin{aligned}
 Y &= \text{SLOPE} * X + \text{INTERCEPT} \\
 \text{Area} &= 1.8352E+02 * \text{Amount} + 0.0000E+00 \\
 \text{Amount} &= 5.4489E-03 * \text{Area} + 0.0000E+00 \\
 \text{Correlation Coefficient} &= 0.9992
 \end{aligned}$$

Method K:P&CAM168
Sample aromatic amines
Operator PMZ
Run date 09-18-1987 18:04:10 version: 6
Printed on 09-18-1987 AT 18:04:28
Straight Line Fit forced through Origin.

Component #:1 O-ANISIDINE



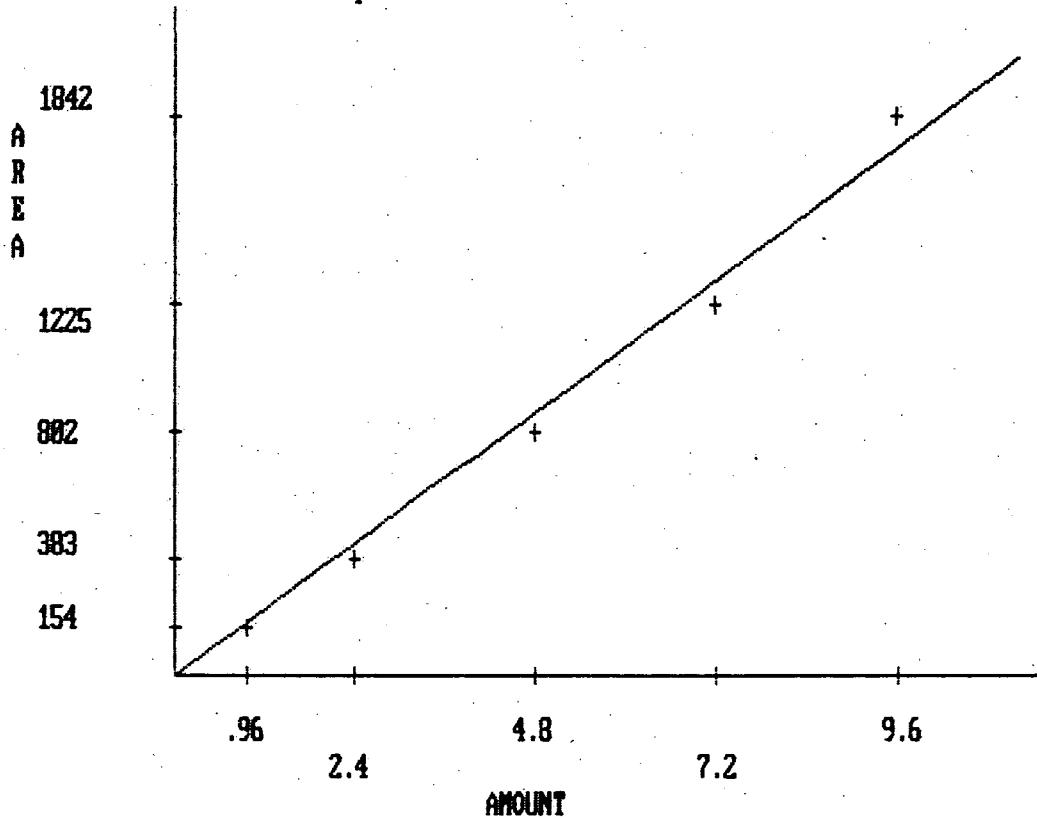
Component 1 = O-ANISIDINE
EXTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA
1	1.5500	298
2	3.9000	749
3	7.8000	1556
4	11.6000	2254
5	15.5000	3174

Y = SLOPE * X + INTERCEPT
DD
Area = 2.0046E+02 * Amount + 0.0000E+00
Amount = 4.9884E-03 * Area + 0.0000E+00
Correlation Coefficient = 0.9994

Method K:P&CAM168
Sample aromatic amines
Operator PMZ
Run date 09-18-1987 18:06:44 version: 7
Printed on 09-18-1987 AT 18:07:09
Straight Line Fit forced through Origin.

Component #:1 P-ANISIDINE



Component 1 = P-ANISIDINE
EXTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA
1	0.9600	154
2	2.4000	383
3	4.8000	802
4	7.2000	1225
5	9.6000	1842

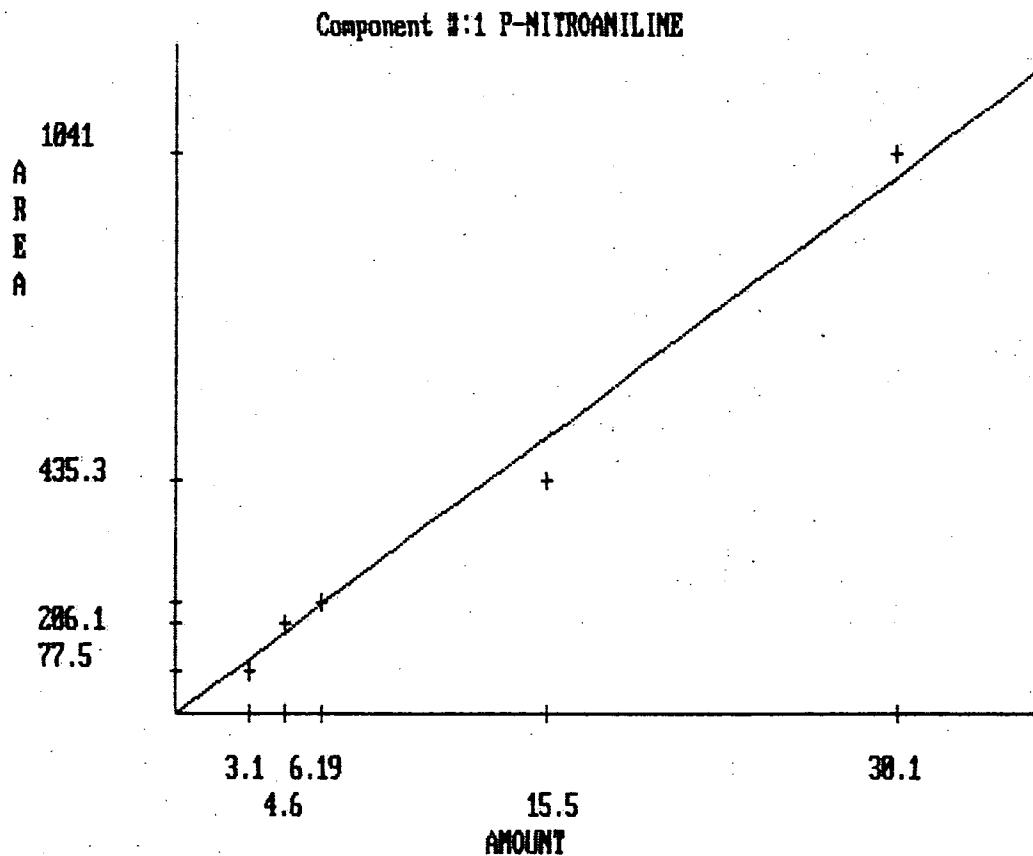
$$Y = \text{SLOPE} * X + \text{INTERCEPT}$$

$$\text{Area} = 1.8086E+02 * \text{Amount} + 0.0000E+00$$

$$\text{Amount} = 5.5290E-03 * \text{Area} + 0.0000E+00$$

$$\text{Correlation Coefficient} = 0.9957$$

Method K:P&CAM168
 Sample aromatic amines
 Operator PMZ
 Run date 09-19-1987 15:40:30 version: 10
 Printed on 09-19-1987 AT 15:40:51
 Straight Line Fit forced through Origin.



Component 1 = P-NITROANILINE
EXTERNAL STANDARD CALIBRATION

LEVEL	AMOUNT	AREA
1	3.1000	78
2	4.6000	166
3	6.1900	206
4	15.5000	435
5	30.1000	1041

$$\begin{aligned}
 Y &= \text{SLOPE} * X + \text{INTERCEPT} \\
 \text{Area} &= 3.3209E+01 * \text{Amount} + 0.0000E+00 \\
 \text{Amount} &= 3.0113E-02 * \text{Area} + 0.0000E+00 \\
 \text{Correlation Coefficient} &= 0.9934
 \end{aligned}$$

CALIBRATION CURVE CHROMATOGRAMS

- / NPD

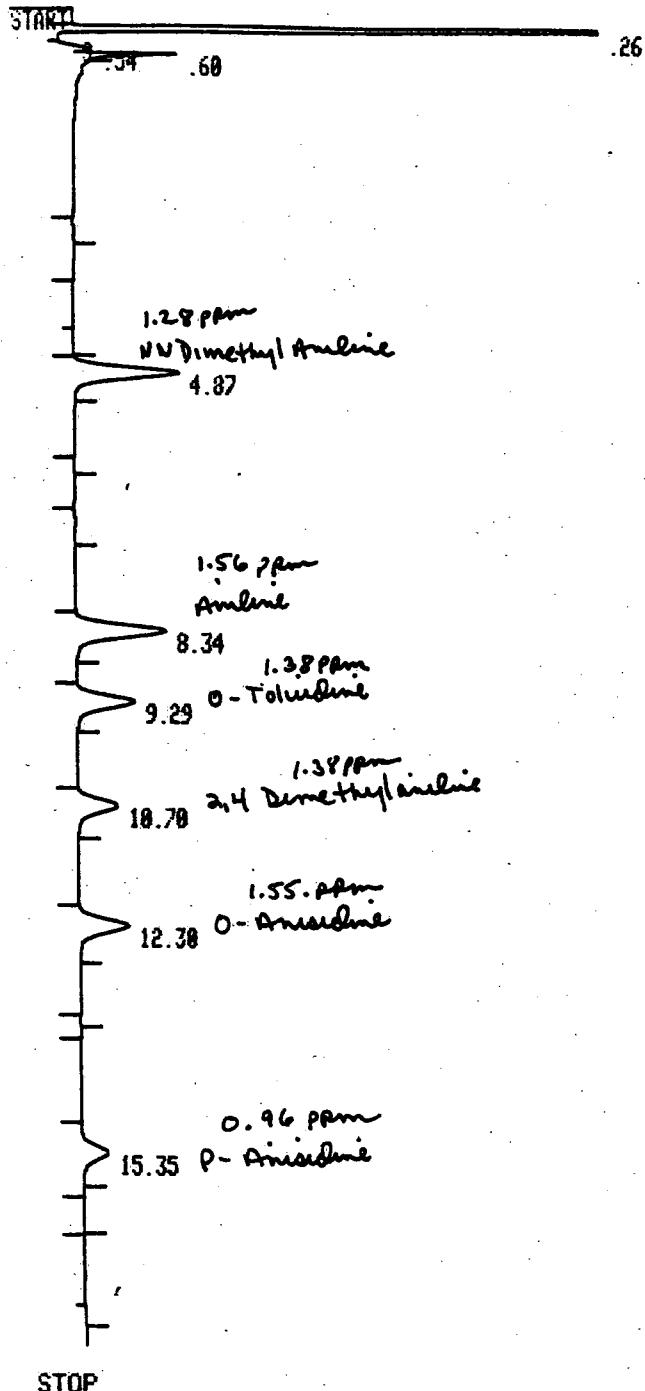
Column: 10% Carbowax 20 m/2% KOH
Chromosorb W AW

Program: 120 - 1 - 5 - 220 - 15

Inj. Det 200° 620 (seal current)

Chart speed 1.0

Atn 2 ↑ - 5.



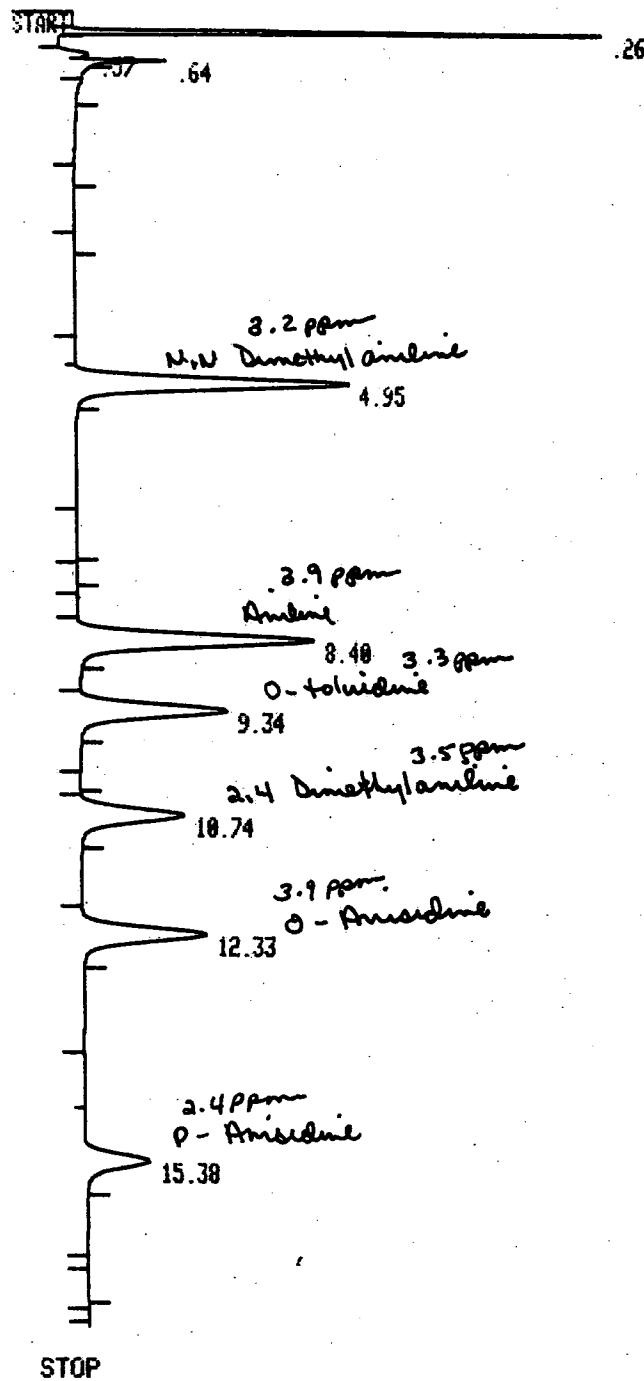
RUN # 91 SEP/18/87 15:34:54

AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.26	1.0696E+07	SPB	0.023	83.196
0.54	26412	BV	0.057	0.205
0.60	102148	BV	0.039	0.795
4.87	520698	BB	0.181	4.050
8.34	494968	BB	0.200	3.850
9.29	326220	PB	0.210	2.537
10.79	238348	BB	0.219	1.854
12.38	297458	BB	0.225	2.314
15.35	154120	PB	0.226	1.199

TOTAL AREA= 1.2856E+07

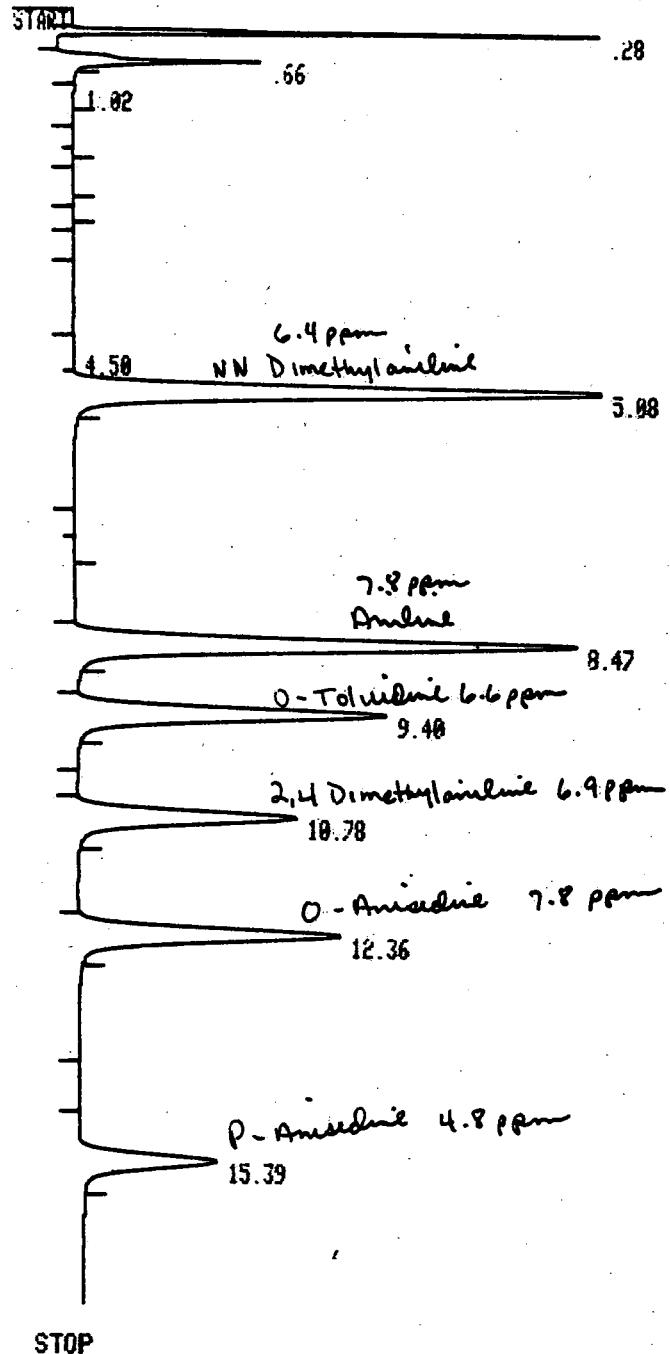
MU. ENTERED 4.20227.00



RUN # 92 SEP/18/87 15:54:21

AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.26	790870	D BB	0.025	12.976
0.57	34585	PV	0.073	0.567
0.64	98410	VB	0.038	1.483
4.95	1332900	PB	0.178	21.869
8.40	1274000	PB	0.197	20.902
9.34	831990	BB	0.207	13.651
10.74	608670	PB	0.216	9.987
12.33	748460	BB	0.222	12.280
15.38	383120	PB	0.229	6.286

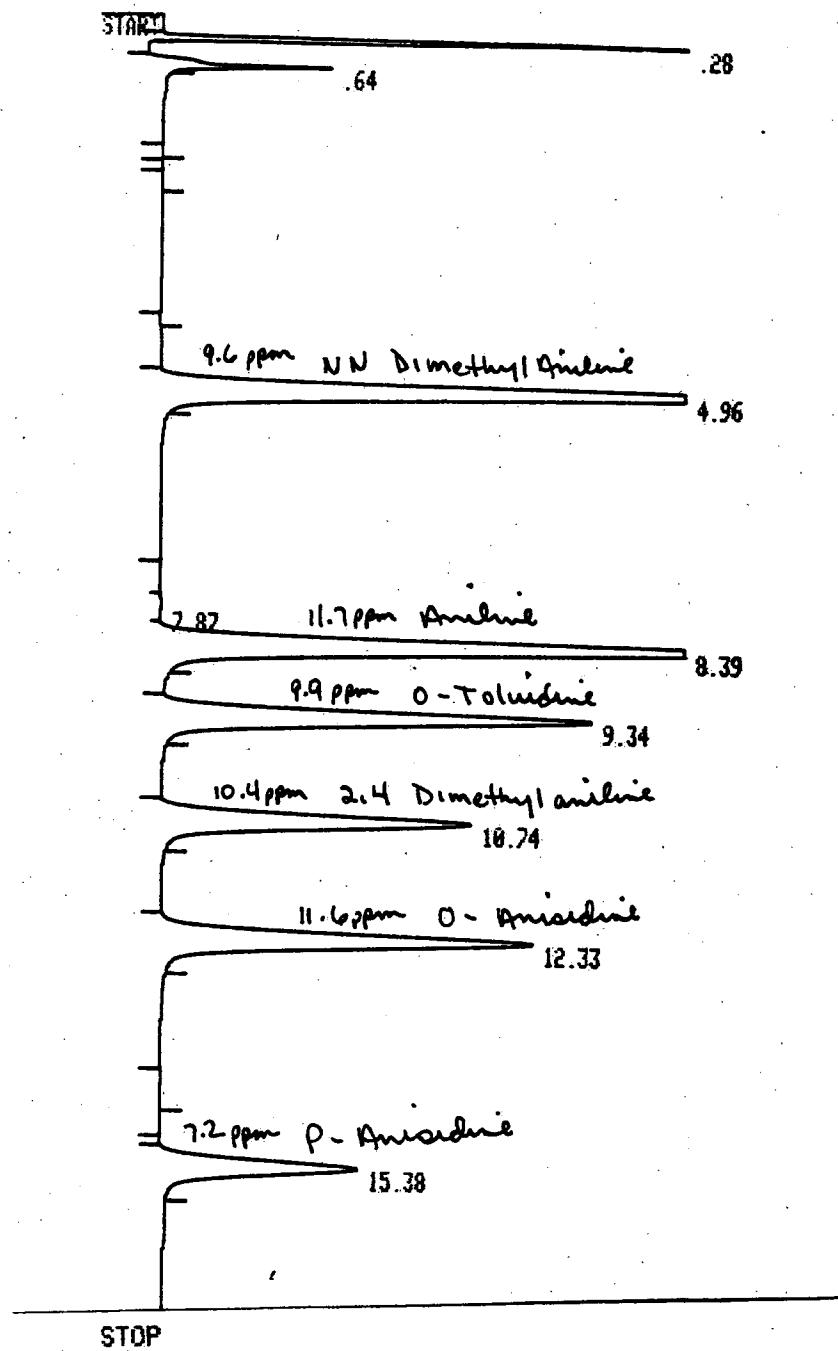


RUN # 93 SEP/18/87 16:13:51

AREA%				
RT	AREA	TYPE	AR/HT	AREA%
0.28	866520	BB	0.031	7.199
0.66	383200	PB	0.072	3.184
1.02	3519	BB	0.071	0.829
4.50	8957	PP	0.183	0.074
5.08	2745800	PB	0.175	22.811
8.47	2672300	PB	0.193	22.208
9.40	1716900	PB	0.202	14.263
10.78	1283000	BB	0.213	10.658
12.36	1555500	BB	0.217	12.922
15.39	801560	PB	0.218	6.659

TOTAL AREA= 1.2937E+02

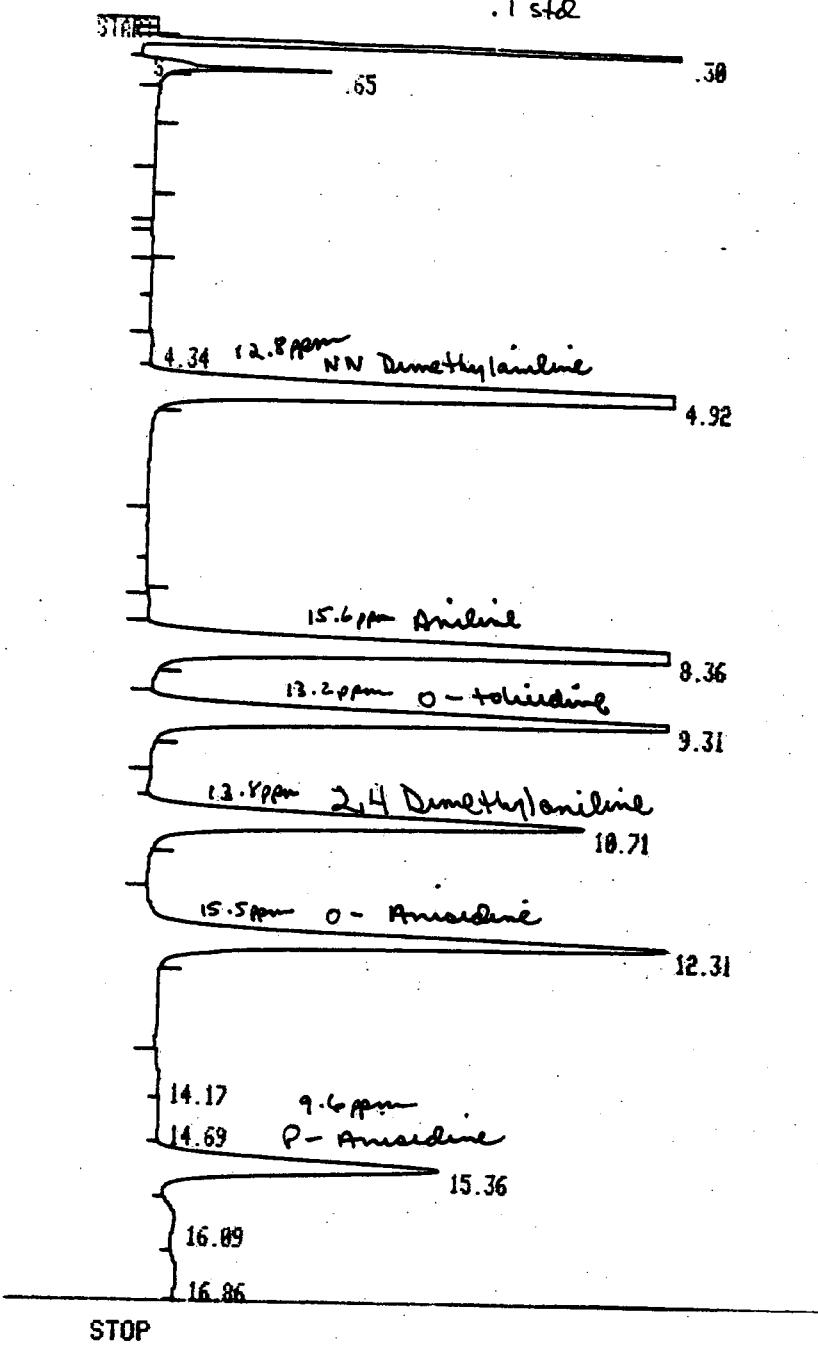
.075 50



RUN # 94 SEP/18/87 16:33:12

AREA%	RT	AREA	TYPE	AR/HT	AREA%
5.219	0.28	862950	D BB	0.027	5.219
1.740	0.64	287780	PB	0.061	1.740
23.251	4.96	3844700	PB	0.176	23.251
0.077	7.87	12694	PP	0.183	0.077
22.874	8.39	3782400	PB	0.195	22.874
14.697	9.34	2430400	BB	0.204	14.697
11.105	10.74	1836400	BB	0.215	11.105
13.632	12.33	2254200	BB	0.220	13.632
7.405	15.38	1224500	PB	0.226	7.405
0.000	20.76	0	PB	0.000	0.000

TOTAL AREA= 1.6536E+02



RUN # 95 SEP/18/87 17:03:34

RT	AREA%	AREA	TYPE	AR/HT	AREA%
0.30	9078100	DSPB	0.022	27.964	
0.65	2580800	BB	0.054	0.796	
4.34	17286	BP	0.185	0.853	
4.92	5208000	PB	0.174	16.057	
8.36	5112700	PB	0.195	15.763	
9.31	3321900	PB	0.205	10.242	
10.71	2589000	PB	0.215	2.982	
12.31	3173900	PB	0.219	9.785	
14.17	40031	BY	0.388	0.123	
14.69	65774	VY	0.564	0.203	
15.36	1841900	YY	0.233	5.679	
16.09	370760	VY	0.571	1.143	
16.86	438570	YY	0.620	1.352	
17.44	903610	VB	1.245	2.786	
20.77	23556	PB	0.234	0.073	

TOTAL AREA= 3 2435E+07

MUL FACTOR= 1.0000E+00

3.1 ppm

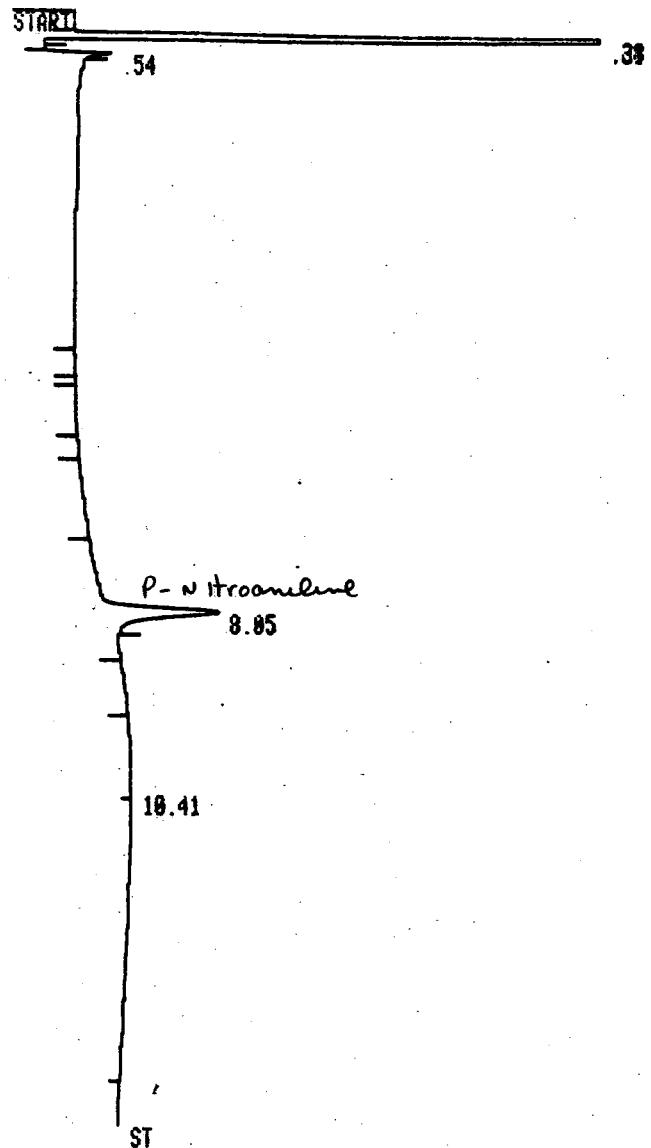
GC/NPC

column 1% SP 1240 DA/100/120 supelcoport
Program 170 - 1 - 10 - 240 - 4

Inj. Det 200°C, 620 (Bead Cemnt)

chart speed 1.0

Att T - 4



RUN # 108 SEP/19/87 12:06:17

AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.28	4731600	SBH	0.019	59.601
0.31	3887300	DSHB	0.021	38.889
0.54	16524	PB	0.047	0.208
8.05	77526	PB	0.105	0.977
10.41	25855	BY	0.693	0.326

TOTAL AREA= 2938800
MUL FACTOR= 1.0000E+00

START

4.6 ppm

.57

.32

P-nitroaniline

8.89

STOP

11'26

RUN # 109

SEP/19/87 12:30:05

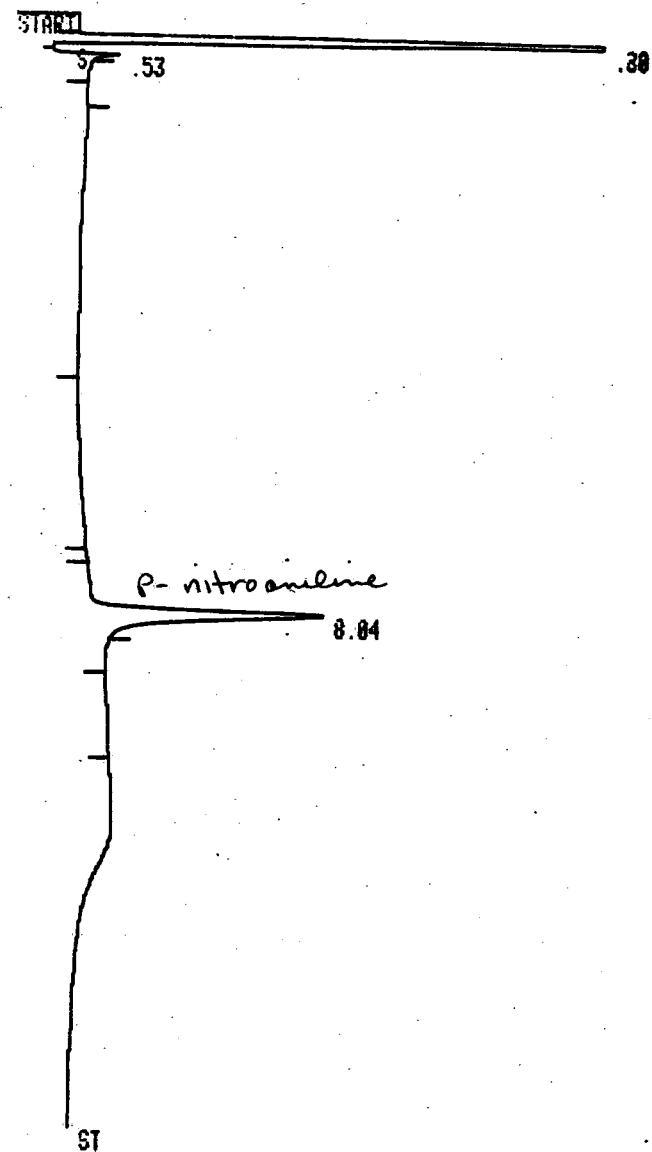
AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.29	5158500	SPH	0.019	58.872
0.32	3422000	DSHB	0.021	39.053
0.57	16068	PB	0.046	0.183
8.09	165790	PB	0.163	1.892

TOTAL AREA= 8762400

MUL FACTOR= 1.0000E+00

6.19 ppm



RUN # 110

SEP/19/87 12:42:51

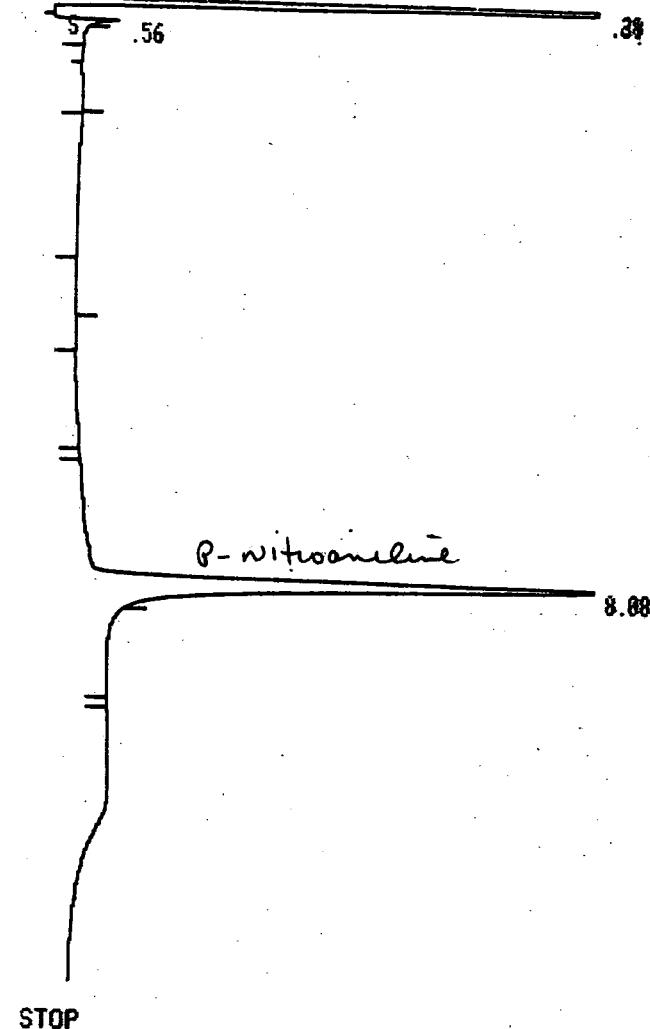
AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.28	4763500	SBH	0.019	57.504
0.38	3311200	DSHB	0.021	39.972
0.53	3031	BB	0.011	0.037
8.84	206090	PB	0.135	2.488

TOTAL AREA= 8283800
MUL FACTOR= 1.0000E+00

15.5 PPW

START



STOP

RUN # 111

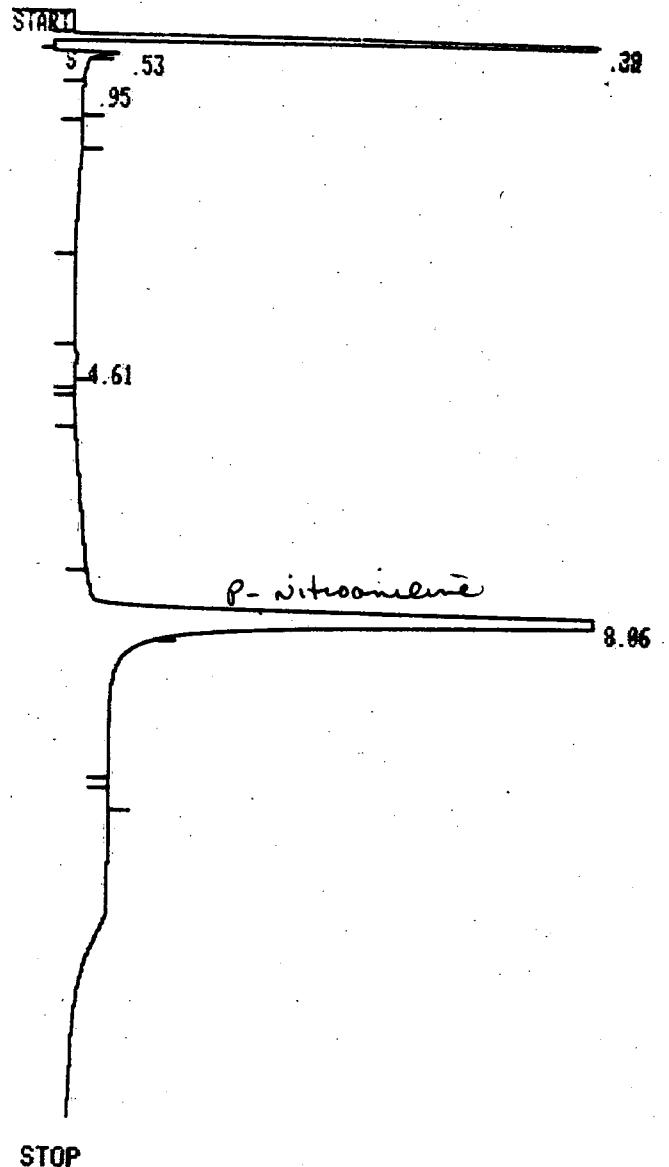
SEP/19/87 12:58:35

AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.28	5115400	SBH	0.020	54.878
0.31	3797200	DSHB	0.022	40.736
0.56	3516	BB	0.012	0.838
8.08	405320	PB	0.116	4.348

TOTAL AREA= 9321500
MUL FACTOR= 1.0000E+00

30.1 ppm



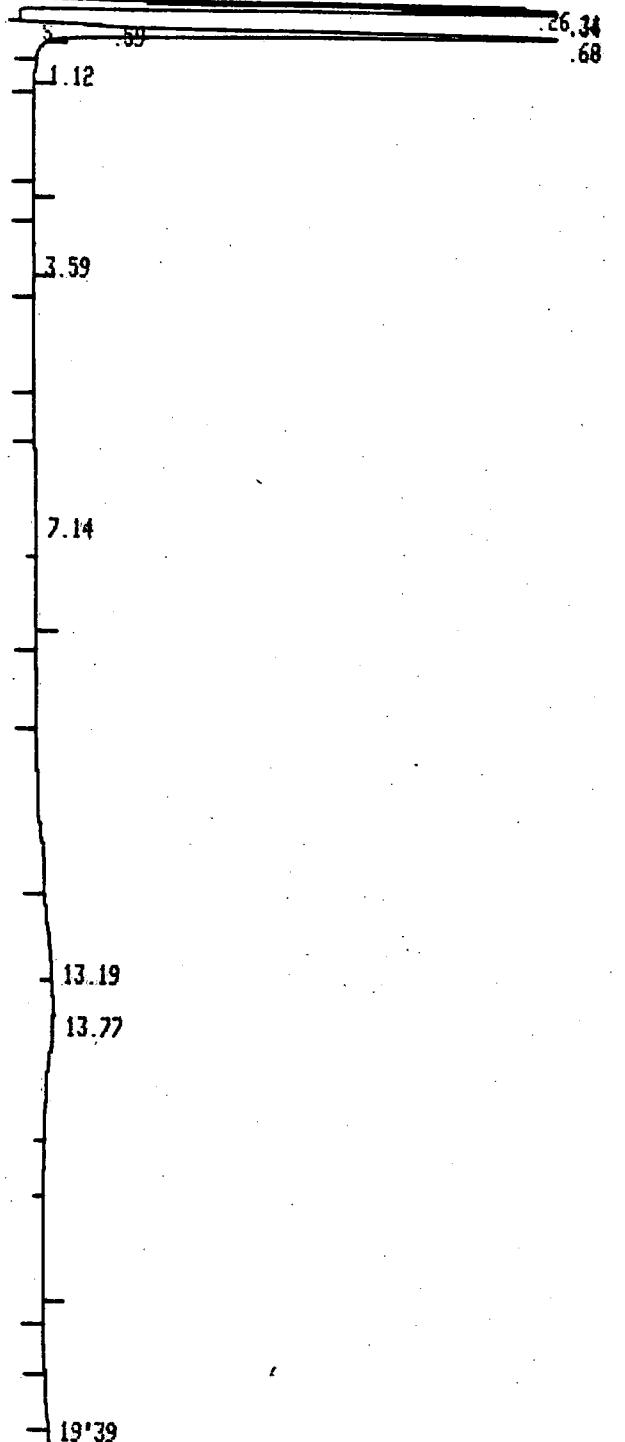
RUN # 112 SEP/19/87 13:12:37

RT	AREA	TYPE	AR/HT	AREA%
0.29	5068500	SBH	0.020	52.532
0.32	3530600	DSHB	0.022	36.593
0.53	5634	BB	0.019	0.058
4.61	2292	PB	0.130	0.024
8.06	1041300	PB	0.143	10.793

TOTAL AREA= 9648300
MUL FACTOR= 1.0000E+00

SAMPLE CHROMATOGRAMS

STRETCH



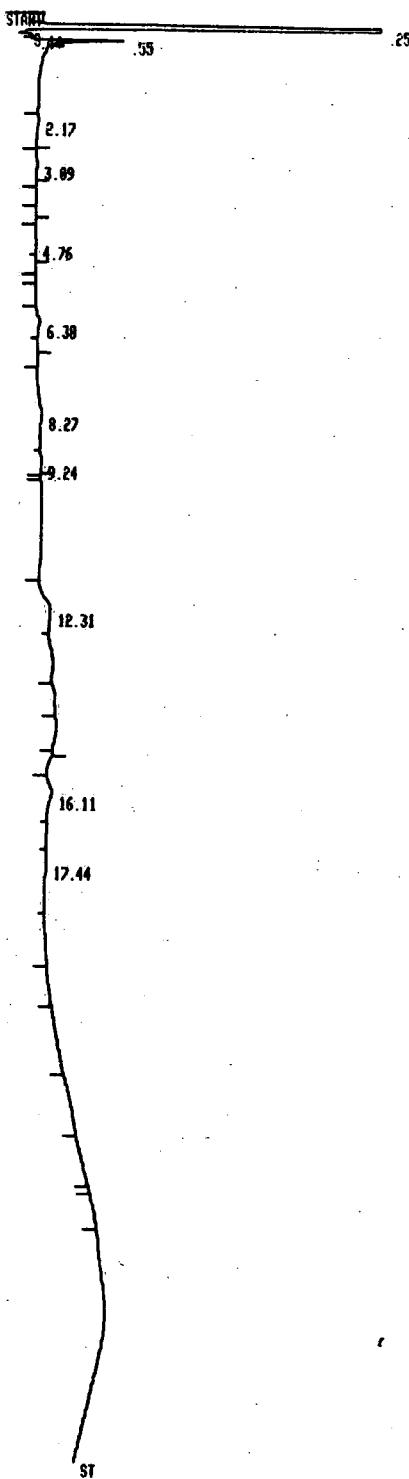
STOP

RUN # 97 SEP/18/87 18:12:26

AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.26	280140	D BY	0.029	2.692
0.31	470010	VH	0.027	4.517
0.34	7657500	DSHB	0.019	73.594
0.59	35742	BY	0.017	0.344
0.68	1424700	VB	0.084	13.692
1.12	3215	BB	0.058	0.031
3.59	5999	PB	0.189	0.058
7.14	37266	BY	0.747	0.358
13.19	138320	BY	0.675	1.329
13.77	352200	VV	1.262	3.385

DELETE TIME
STOP TIME 3 0 0 J# 3471 419

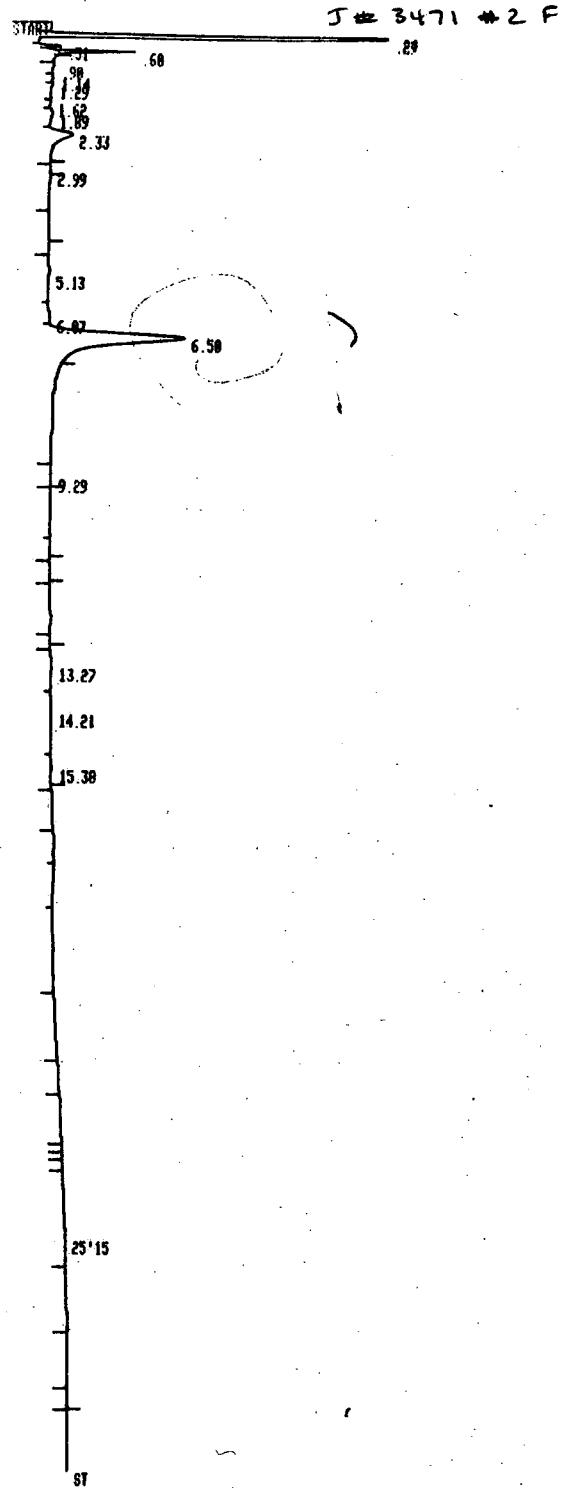


RUN # 84 SEP/18/87 09:47:22

AREA%				
RT	AREA	TYPE	AR/HT	AREA%
0.25	2.6982E+07	TSHB	0.052	97.929
0.44	5515	PB	0.029	0.020
0.55	161888	PB	0.043	0.584
2.17	17378	BB	0.192	0.063
3.89	13166	PB	0.189	0.048
4.76	4510	PV	0.184	0.016
6.38	32282	PV	0.239	0.135
8.27	61864	PV	0.503	0.225
9.24	11166	V8	0.278	0.041
12.31	107850	PB	0.393	0.391
16.11	113478	V8	0.436	0.412
17.44	37312	V8	0.593	0.135

TOTAL AREA= 2.7553E+07
MUL FACTOR= 1.0000E+00

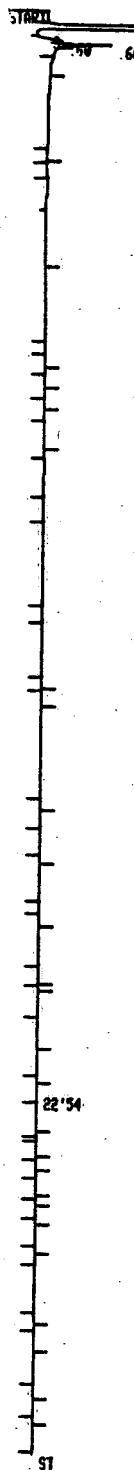
J# 3471 X26



RUN # 85 SEP/10/87 10:20:16

AREA%	RT	AREA	TYPE	AR/HT	AREA%
0.24	373928	PH	0.020	3.312	
0.27	8893500	DSHB	0.021	78.890	
0.31	21878	BP	0.038	0.194	
0.60	151670	PB	0.041	1.345	
0.69	4927	BP	0.088	0.044	
1.14	9669	PV	0.093	0.086	
1.29	8687	VP	0.116	0.072	
1.62	3971	PP	0.192	0.035	
1.89	20735	PP	0.161	0.184	
2.33	209980	PB	0.211	1.863	
2.99	4583	BB	0.114	0.040	
5.13	15024	BP	0.257	0.133	
6.02	4647	PP	0.083	0.041	
6.58	1482000	PB	0.260	13.146	
9.29	5734	BB	0.184	0.051	
13.27	28877	BV	0.361	0.249	
14.21	25473	VP	0.699	0.226	
15.38	8088	PB	0.223	0.079	

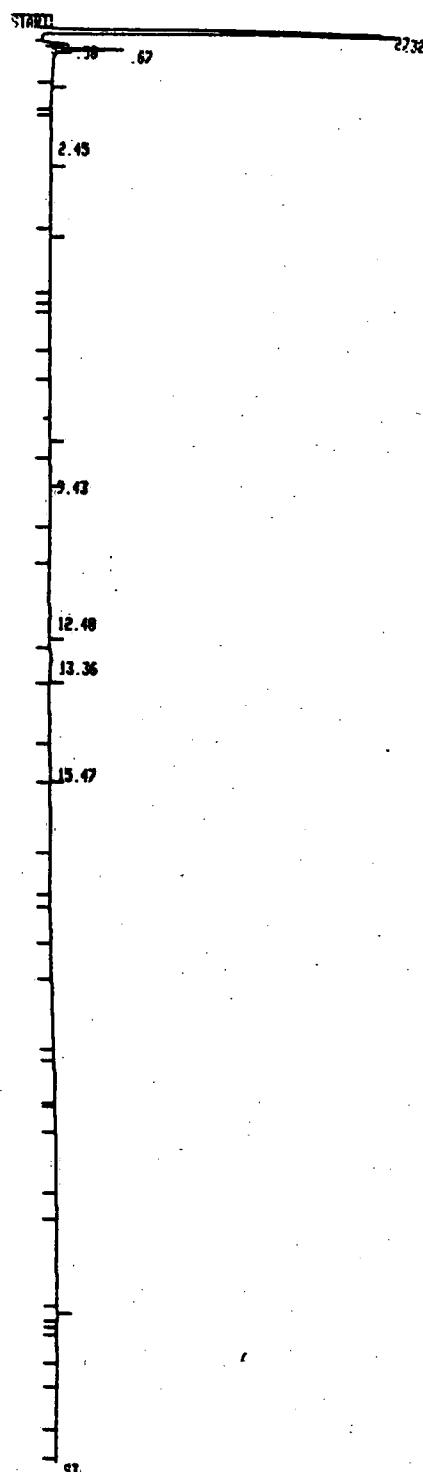
TOTAL AREA= 1.1273E+02
MUL. FACTOR= 1.0000E+00



RUN # 86 SEP/18/87 11:05:26

AREAZ	RT	AREA TYPE	AR/HT	AREA%
	0.25	348688 D PH	0.020	3.711
	0.38	8927708 DSHB	0.021	95.027
	0.60	29066 BV	0.054	0.318
	0.66	89458 VB	0.036	0.952

TOTAL AREA= 9394900
MUL FACTOR= 1.0000E+00



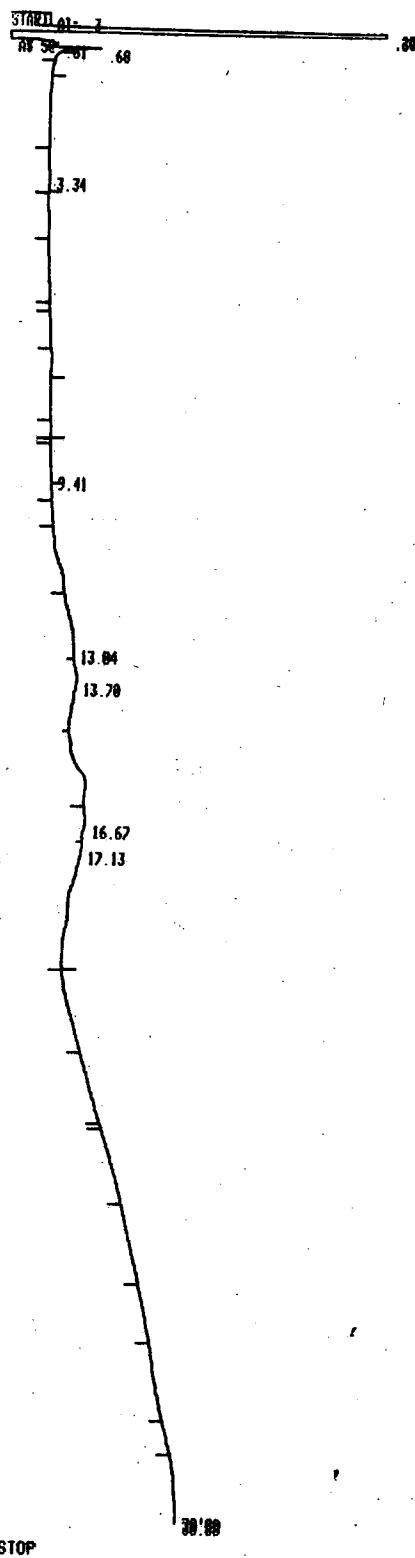
RUN # 87 SEP/18/87 11:42:02

AREA%	RT	AREA	TYPE	AR/Ht	AREA%
8.27	285258	SH	0.929	3.516	
9.32	7631700	SHB	0.929	94.855	
9.58	28523	BV	0.035	0.352	
9.67	97848	V8	0.033	1.286	
2.45	9677	BB	0.215	0.119	
9.43	5887	P8	0.232	0.863	
12.48	22938	BB	0.342	0.222	
13.36	26328	BB	0.253	0.327	
15.47	7487	P8	0.306	0.091	

TOTAL AREA= 8114800
MUL. FACTOR= 1.0000E+00

J4 3471

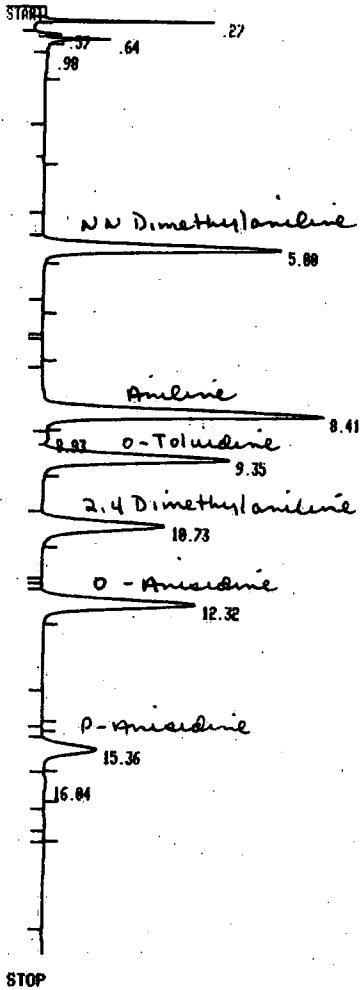
+5 F



RUN # 83 SEP/18/87 09:14:09

AREA%	RT	AREA	TYPE	AR/HT	AREA%
0.25		275470	D BH	0.020	2.608
0.30		9152688	DSH8	0.021	66.641
0.61		22268	BP	0.051	0.211
0.68		85742	PB	0.040	0.812
3.34		8129	PB	0.144	0.077
9.41		4019	PB	0.159	0.038
13.04		253560	BV	0.767	2.400
13.70		372540	BV	0.893	3.527
16.67		88623	BV	0.442	0.839
17.13		0	BV	0.000	0.000
39.88		300910	I BH	1.084	2.849

TOTAL AREA= 1.0564E+02
MUL. FACTOR= 1.0000E+00

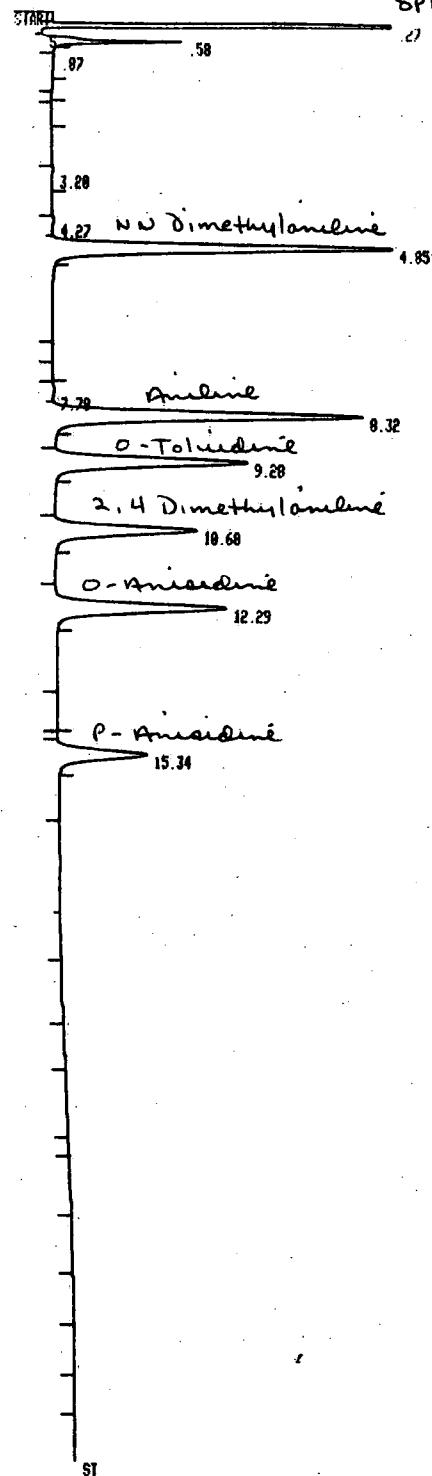


RUN # 98 SEP/18/87 15:13:23

AREA%		AREA TYPE	AR/HT	AREA%
0.27	280420	D BB	0.027	2.168
0.57	40155	PV	0.046	0.434
0.64	125130	VB	0.044	1.354
0.98	0	BB	0.000	0.000
5.88	1803000	BB	0.175	19.565
8.41	2313100	PB	0.192	25.023
8.93	16009	BP	0.154	0.173
9.35	1605300	PB	0.202	17.367
10.73	1101000	PB	0.224	12.776
12.32	1426400	BB	0.217	15.431
15.36	509540	BB	0.223	5.512
16.04	23728	PB	0.239	0.257

TOTAL AREA= 9243880
MUL. FACTOR= 1.0000E+00

Spike std.

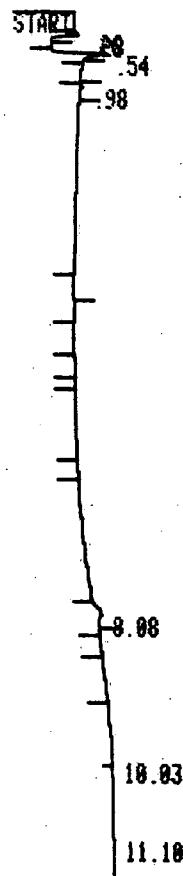


RUN # 98 SEP/18/82 12:14:83

AREA%	RT	AREA	TYPE	AR/HT	AREA%
0.27	9358200	BB	B	0.022	45.374
0.58	367510	BB	B	0.064	1.782
0.87	8	BB	B	0.008	0.008
3.28	6869	BB	B	0.144	0.033
4.27	10989	BP	B	0.174	0.053
4.85	2737500	BB	B	0.182	13.273
7.78	8660	PP	B	0.176	0.042
8.32	2622100	BB	B	0.197	12.713
9.28	1717200	BB	B	0.207	8.328
10.68	1322900	BB	B	0.217	6.414
12.29	1617300	BB	B	0.220	7.842
15.34	854810	BB	B	0.224	4.145

TOTAL AREA = 2.0624E+07
MUL. FACTOR = 1.0000E+00

Instrument Blank
J# 3471



STOP

RUN # 116 SEP/19/87 14:13:00

RT	AREA	TYPE	AR/HT	AREA%
0.26	3028	BV	0.039	3.418
0.54	6937	PB	0.029	7.830
8.08	5922	PB	0.149	6.684
10.03	16660	BV	0.535	18.884
11.10	56053	I VH	1.374	63.265

TOTAL AREA= 88600
MUL FACTOR= 1.0000E+00

J# 3471

*14

START



STOP

RUN # 118

SEP/19/87 14:39:55

AREA%	RT	AREA	TYPE	AR/HT	AREA%
	0.29	4962608	SPH	0.029	60.044
	0.32	3178200	DSHB	0.021	38.453
	0.55	36626	PY	0.075	0.443
	0.70	51710	VV	0.198	0.626
	0.92	29959	VB	0.177	0.363
	8.06	5934	PB	0.107	0.072

TOTAL AREA= 8265000

MUL FACTOR= 1.0000E+00

J# 3471

*24

START

5 .533 .38

8.02

STOP

RUN # 119

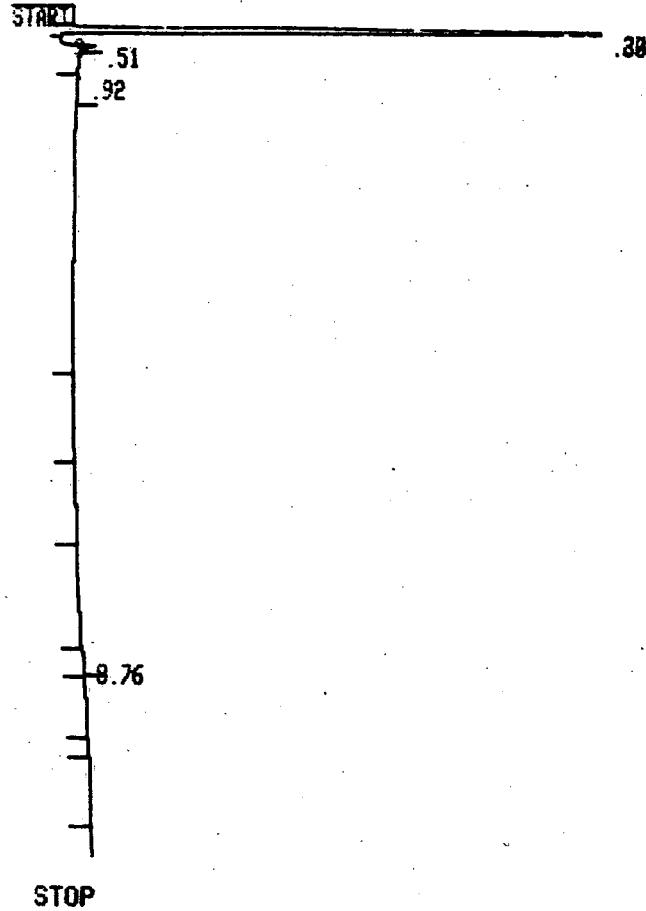
SEP/19/87 14:52:51

AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.28	4718000	SBH	0.019	61.770
0.30	2746000	DSHB	0.021	35.951
0.53	1723	BY	*	0.023
0.55	162520	O YB	0.086	2.128
8.02	9808	PB	0.173	0.128

TOTAL AREA= 7638000
MUL FACTOR= 1.0000E+00

J#3471
*35



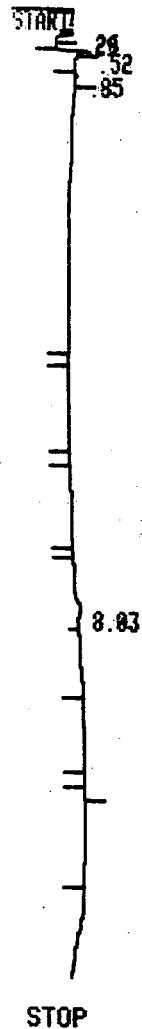
RUN # 120 SEP/19/87 15:06:47

AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.27	4764900	SBH	0.020	60.139
0.30	3150300	DSHB	0.021	39.761
0.51	4383	BB	0.015	0.055
8.76	3577	BB	0.158	0.045

TOTAL AREA= 7923200
MUL FACTOR= 1.0000E+00

J# 3471
F



RUN # 121 SEP/19/87 15:19:13

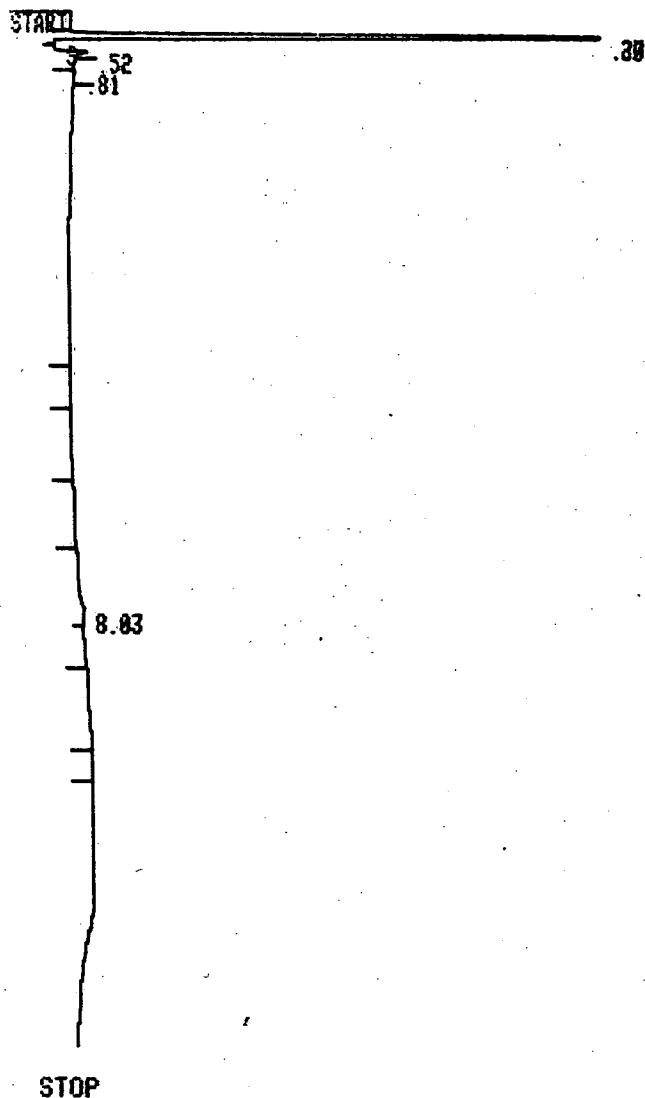
AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.26	10207	D YY	0.063	33.081
0.29	3034	D VB	0.018	9.833
0.52	12882	PB	0.041	41.750
0.85	1884	BB	0.060	6.106
8.03	2648	PB	0.065	9.230

TOTAL AREA= 30855
MUL FACTOR= 1.0000E+00

J# 3471

*SF



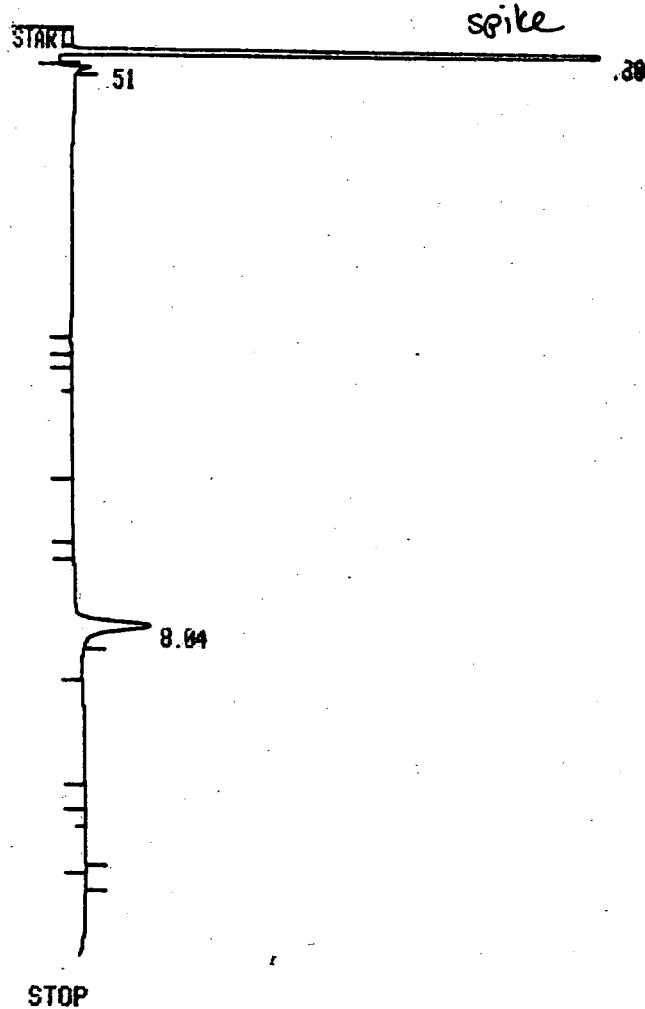
RUN # 117 SEP/19/87 14:25:32

AREA%

RT	AREA TYPE	AR/HT	AREA%
0.27	4659700 SBH	0.019	62.217
0.30	2829800 DSHB	0.021	37.783

TOTAL AREA= 2489500

MUL FACTOR= 1.0000E+00



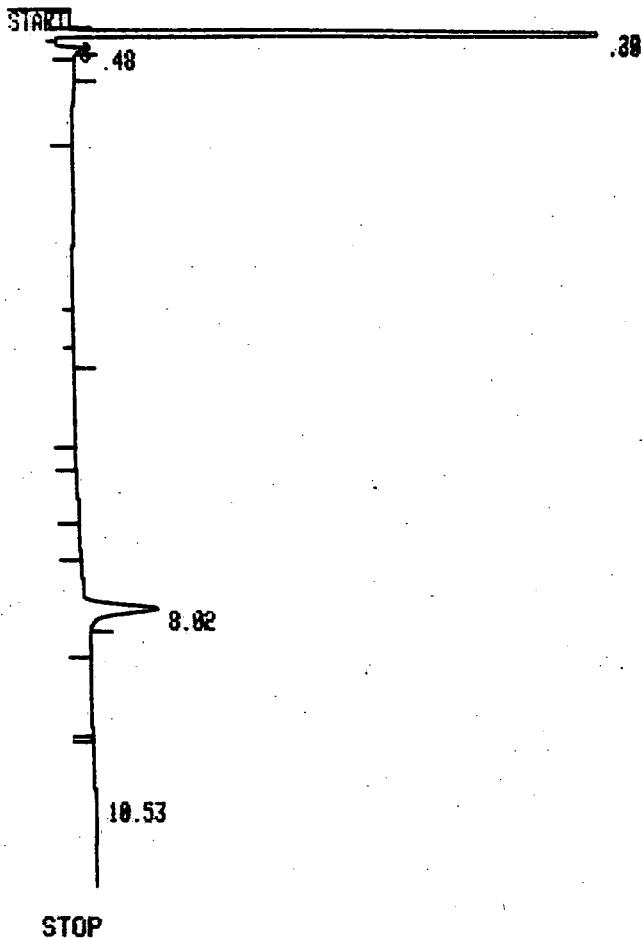
RUN # 122 SEP/19/87 15:32:55

AREA%

RT	AREA	TYPE	AR/HT	AREA%
0.28	4763300	SPH	0.019	60.723
0.30	2951400	DSHB	0.020	37.625
0.51	13967	PB	0.044	0.128
8.04	115680	PB	0.123	1.475

TOTAL AREA= 2844480
MUL FACTOR= 1.0000E+00

Spike std



RUN # 123 SEP/19/87 15:46:06

AREA%				
RT	AREA	TYPE	AR/HT	AREA%
0.27	4731300	SPH	0.019	62.610
0.30	2677900	DSHB	0.020	35.436
0.48	9816	B6	0.032	0.130
8.82	124620	PB	0.129	1.649
10.53	13152	I BH	1.502	0.174

TOTAL AREA= 7556800
MUL FACTOR= 1.0000E+00

#3471

	ppm	PCBM 168	spike std pp	%
2-N-Dimethyl aniline	6.4	2637	4.38	69%
Aniline	7.8	2622	6.84	88
Biphenyl	6.9	1717	6.45	93
4-Dimethyl aniline	7.8	1323	6.96	89
- Anisidine	4.8	1617	4.23	88
- Anisidine	6.6	804	4.19	63
o-nitroaniline	2.2	124	+24 115	115 93%
	4.6			

o-nitroaniline

	RT	pH
3.1	8.05	77.5
4.6	8.09	165.8
6.2	8.04	206.1
15.5	8.08	405.3
30.1	8.06	1041

5

ND

1

8.06

5.9

2

8.02

9.8

3

ND

2

8.03

2.8

$$\#1 \quad 3.1 \left(\frac{5.9}{77.5} \right) \left(\frac{1}{120} \right) \left(\frac{24.45}{138} \right) = 0.0003 \quad ND$$

$$\#2 \quad 3.1 \left(\frac{9.8}{77.5} \right) \left(\frac{1}{120} \right) \left(\frac{24.45}{138} \right) = 0.0005 \quad ND$$

$$3.1 \left(\frac{10}{77.5} \right) \left(\frac{1}{120} \right) \left(\frac{24.45}{138} \right) = 0.001$$

MDL = 0.01

$$\#4 \quad 3.1 \left(\frac{2.8}{77.5} \right) \left(\frac{1}{R} \right) \left(\frac{24.45}{138} \right) = ND$$



9/16

SECTION II

ENVIRESPONSE INC.
GSA Raritan Depot, Woodbridge Avenue
Building 209, Bay F
Edison, New Jersey 08837

September 11, 1987

PRINCETON TESTING LABORATORY, INC.
P.O. Box 3108
Princeton, New Jersey 08540

Dear Mr. Howard Whaley,

As per Mike Miller's conversation with you on September 10, 1987, twelve carbon tubes for totals organic analysis by NIOSH method P&CAM 127 were delivered to you on September 10, 1987. Four carbon tubes are samples, three are field blanks, and the remaining are blank tubes to be used for spiking.

As per our conversation on September 11, 1987, nine silica tubes for amino acids by NIOSH method P&CAM 168 are with this letter. Four silica tubes are samples, three are field blanks, and the rest are blank tubes for spiking.

For sample C3 the volume of air sampled is unknown, therefore, please report any concentration found as total ug on the carbon tube. One field blank is to be analyzed. If any contamination is found, the other two field blanks are to be analyzed, otherwise one field blank is sufficient. Please use one blank carbon tube and one blank silica tube for spiking.

The data package for the GC/MS should include:

1. Spectra and tabulation of ions for BFB for every twelve hours of analysis.
2. Total ion chromatograms for every blank, standard, and sample.
3. Spectra for standards of any compounds with sample hits.
4. Spectra for hits in samples.
5. Response tabulation for each point in the most recently analyzed calibration range.
6. Response factors for each daily check standard.
7. All surrogate and internal standards must be clearly labeled on the total ion chromatograms.
8. Each data sheet and chromatogram of spectrum must be clearly labeled with the sample identity and date and time of analysis plus dilution and/or concentration factors.

9. All sample analysis results must be presented in tabulated form-data sheets alone are not acceptable.
10. All surrogate standards recoveries must be presented in tabulated form.
11. Sample matrix spikes must be presented in tabulated form.
12. Instrument and method detection limit for each parameter.

The data package for gas chromatographic analysis should include:

1. Clearly labeled copies of the most recent calibration range for the compounds of interest.
2. A list of instrument and method detection limits for each compound analyzed.
3. Chromatograms of all samples, daily standards and blanks. All chromatograms must be clearly labeled with the standard or sample identity, date and time and dilution/concentration factors. One standard for each parameters must be analyzed for every twelve hours of analysis.
4. All instrument conditions including oven temperature, detector temperature and type, column, sensitivity and chart speed.
5. Tabulation of sample results.
6. Tabulation of any internal and/or surrogate standard results.

The report for the carbon tubes is due September 14, 1987 and the report for the silica tubes is due September 18, 1987. The Enviresponse Purchase Order Number is 3-70-78190299. Please send an invoice with the silica tube report. The price agreed upon was \$350 each for the carbon tubes for a total of \$2,100 and \$150 each for the silica for a total of \$900 depending upon whether the extra field blanks are analyzed.

If you have any questions please contact me at 201-906-6859. Please send the reports to:

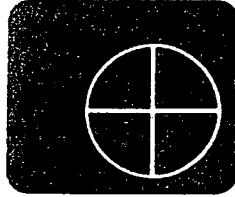
Enviresponse Inc.
GSA Raritan Depot, Woodbridge Avenue
Building 209, Bay F
Edison, New Jersey, 08837
Attn: M. Murphy

Sincerely,

Marian Murphy

Marian Murphy

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540



princeton
testing
laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

September 14, 1987

Mrs. Marion Murphy
Envirospone
GSA Raritan Depot
Woodbridge Avenue
Bldg. 209 Bay F
Edison, NJ 08837

Dear Marion:

Enclosed are the results of Princeton Testing Laboratary for the analysis of four charcoal tubes by P&CAM 127. The benzene levels encountered in the tubes is due to low level contamination in the Carbon Disulfide used to disorb the tubes. Blank valves were not subtracted from sample valves. Also Princeton Testing is initiating a 24 hour service. 24 Hour turnaround is available 24 hours a day.

Please use the following pagar # after hours or on weekends, 896-6870. Marion thank you for using Princeton Testing Laboratory, and I hope we can be of service to Envirospone in the future.

Best regards,

PRINCETON TESTING LABORATORY
CHARLES CORCORAN
Manager Organic Laboratory

:cj

Marion,
Please excuse spelling
of some! Thank you
for your business

PRINCETON SERVICE CENTER
U.S. Route 1
609-452-9050
TLX84-3492



P.O. Box 3108, Princeton, N.J. 08540



Environmental
Analysis

SAMPLE ANALYSIS REPORT

For ENVIROSPONSE
GSA RARITAN DEPOT
WOODBRIDGE AVE.
BLD. 209 BAY F EDISON NJ 08837
Attention: MIKE MILLER

Report Date: 09/14/87

Job No.: 87G3452

Date Received: 09/10/87

Units: PPM IN AIR

TEST PERFORMED: NIOSH METHOD P&CAM 127

COMPOUND	DET LMTS	001	002	003
67-64-1 Acetone	0.01 ppm	0.030	0.036	0.008
67-66-3 Chloroform	0.05 ppm	ND	ND	ND
78-93-3 Methyl Ethyl Ketone	0.01 ppm	ND	ND	ND
123-91-1 p-Dioxane	0.01 ppm	ND	ND	ND
56-23-5 Carbon Tetra-chloride	0.05 ppm	ND	ND	ND
79-01-6 Trichloroethylene	0.05 ppm	ND	ND	ND
71-43-2 Benzene	0.01 ppm	0.023	0.025	0.008
108-33-3 Toluene	0.01 ppm	0.014	0.015	ND
133-02-7 Xylenes	0.01 ppm	ND	0.010	ND
75-09-2 Methylene Chloride	0.05 ppm	ND	ND	ND
07-06-2 1,2-Dichloroethane	0.05 ppm	ND	ND	ND
71-55-2 1,1,1-Trichloro-ethane	0.05 ppm	ND	ND	ND
79-00-5 1,1,2-Trichloro-ethane	0.05 ppm	ND	ND	ND
127-18-4 Tetrachloro-ethylene	0.05 ppm	ND	ND	ND
100-42-5 Styrene	0.01 ppm	ND	ND	ND

SURROGATE RECOVERY DATA
% RECOVERY

4-Bromofluorobenzene 96% 98% 95%

DATE RECEIVED: 9/10/87 9/10/87 9/10/87

DATE ANALYZED: 9/10/87 9/10/87 9/10/87

MDL MULTIPLIER: 1 1 1

C OF C #00398

Note** sample #003 results are reported in mg because there was no air volume given.

PRINCETON SERVICE CENTER
U.S. Route 1
609-452-9050
TLX84-3492



P.O. Box 3108, Princeton, N.J. 08540



Environmental
Analysis

SAMPLE ANALYSIS REPORT

Report Date: 09/14/87

For ENVIOSPONSE
GSA RARITAN DEPOT
WOODBRIDGE AVE.
BLD. 209 BAY F EDISON NJ 08837
Attention: MIKE MILLER

Job No.: 87G3452
Date Received: 09/10/87
Units: PPM IN AIR

TEST PERFORMED: NIOSH METHOD P&CAM 127

COMPOUND	DET LMTS	004	005
67-64-1 Acetone	0.01 ppm	0.031	0.037
67-66-3 Chloroform	0.05 ppm	ND	ND
78-93-3 Methyl Ethyl Ketone	0.01 ppm	ND	ND
123-91-1 p-Dioxane	0.01 ppm	ND	ND
56-23-5 Carbon Tetra-chloride	0.05 ppm	ND	ND
79-01-6 Trichloroethylene	0.05 ppm	ND	0.023
71-43-2 Benzene	0.01 ppm	0.016	ND
83-33-3 Toluene	0.01 ppm	ND	ND
83-02-7 Xylenes	0.01 ppm	ND	NO
75-09-2 Methylene Chloride	0.05 ppm	ND	ND
07-06-2 1,2-Dichloroethane	0.05 ppm	ND	ND
71-55-2 1,1,1-Trichloro-ethane	0.05 ppm	ND	ND
79-00-5 1,1,2-Trichloro-ethane	0.05 ppm	ND	ND
127-18-4 Tetrachloro-ethylene	0.05 ppm	ND	ND
100-42-5 Styrene	0.01 ppm	ND	ND

SURROGATE RECOVERY DATA
% RECOVERY

4-Bromofluorobenzene 97% 94%

DATE RECEIVED: 9/10/87 9/10/87

DATE ANALYZED: 9/10/87 9/10/87

MDL MULTIPLIER:

F C #00398

1 1
Charles Corcoran, Manager, Organic Lab.

PRINCETON SERVICE CENTER
U.S. Route 1
609-452-9050
TLX84-3492



P.O. Box 3108, Princeton, N.J. 08540

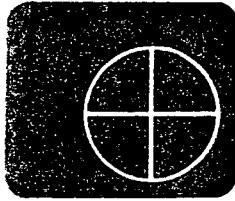
87G3452

ENVIOSPONSE

S A M P L E N U M B E R S

PTL #	Customer #	PTL #	Customer #
001	C1	006	CFB2
002	C2	007	CFB3
003	C3		
004	C4		
005	CFB1		

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540



**princeton
testing
laboratory inc.**

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

September 21, 1987

Dear Marian:

Enclosed please find the results of Princeton Testing Laboratories analysis of four tubes for Aromatic amines. One blank tube was also analyzed.

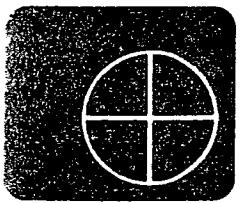
Please contact me if you need further information.

Regards,

PRINCETON TESTING LABORATORY

:CJ

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540

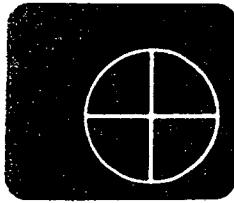


**princeton
testing
laboratory inc.**

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

**ENVIRESPONSE, INC.
PTL JOB# 87G3473
PO # 00602
9/21/87
ATTN: MARIAN MURPHY**

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540



princeton
testing
laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

CLIENT NAME:

ENVIRESPONSE, INC.

DATE: 9/21/87

PTL JOB #: 87G3471

P.O. #: C OF C # 00602

DATE RECEIVED: 9/14/87

SAMPLE NUMBER LEGEND

CLIENT IDENTIFICATION

S1

S2

S3

S4

SFBI (BLANK)

PTL SAMPLE NUMBER

001

002

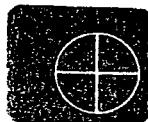
003

004

005

COMMENTS: _____

SAMPLE DATA



princeton testing laboratory

609-452-9050

Princeton Service Center, US Route One, Princeton, NJ 08540

Mailing Address: PO Box 3108, Princeton, NJ 08543

DATE: 9/18/87

JOB NO. 87G3471

AUTHORIZATION: C of C 00602

TO: ENVIRESPONSE, INC.

SAMPLE: Tubes-7

UNITS: Milligrams per li

REPORT OF ANALYSIS

METHOD: PCAM 168

COMPOUND	MDL	001	002	003	004	005
NN Dimethylaniline	0.01	ND	ND	ND	ND	ND
Aniline	0.01	ND	ND	ND	ND	ND
2,4-Dimethylaniline	0.01	ND	ND	ND	ND	ND
O-Anisidine	0.01	ND	ND	ND	ND	ND
O-Toluidine	0.01	ND	ND	ND	ND	ND
P-Anisidine	0.01	ND	ND	ND	ND	ND
P-Nitroaniline	0.01	ND	ND	ND	ND	ND

MDL = Method Detection Limit

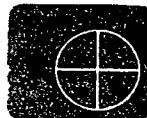
ND = Not Detected

Received 9/14/87

CHARLES CORCORAN
Manager Organic LAB.

:cj

QC DATA



princeton testing laboratory

Princeton Service Center, US Route One, Princeton, NJ 08540

Mailing Address: PO Box 3108, Princeton, NJ 08543

DATE: 9/21/87

JOB NO. 87G3471

TO: ENVIRESPONSE, INC.
 GSA Rarita Depot, Woodbridge Ave.
 Building 209, Bay F
 Edison, NJ 08837
 Attn: Marian Murphy

AUTHORIZATION: C of C# 00602

SAMPLE: Tubes - 7

Units: Milligrams per Lit

REPORT OF ANALYSIS

METHOD: PCAM 168

COMPOUND	MDL	SPIKE RECOVERY %
N N Dimethylaniline	0.01	69%
Aniline	0.01	88%
2,4-Dimethylaniline	0.01	93%
O-Anisidine	0.01	89%
O-Toluidine	0.01	88%
P-Anisidine	0.01	65%
P-NITROANILINE	0.01	93%

MDL = Method Detection Limit

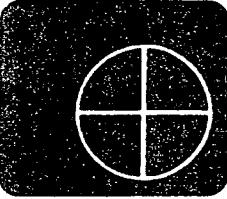
ND = Not Detected

Received 9/14/87

CHARLES CORCORAN
 Manager Organic Laboratory

:cj

Princeton Service Center
U.S. Route 1
Princeton, NJ 08540



princeton testing laboratory inc.

P.O. Box 3108
Princeton, NJ 08543-3108
(609) 452-9050

Modification for P&CAM 168

8.4 Analysis of samples

8.4.1 silica gel sections were transferred to separate glass vials

8.4.2 Desorption of samples: 1ml of ethanol was injected into each vial.
Desorption took 40 minutes.

8.4.3 Gas Chromatograph Conditions

For Aniline, N,N, Dimethylaniline, O-Toluidine, 2,4 Xylidine,
O-Anisidine, and P-Anisidine

Column: 10% carbowax 20m/ 2% KOH Chromosorb WAW

For P-Nitroaniline

Column: 1% sp 1240 DA on 100/120 Supelcoport NPD detector, N₂ carrier flow
30ml/min, injection port 200°C, H₂ flow 15ml/min temperature program
170°C for 1 minute then increased 10° per minuter up to 240°C and
held for 4 minutes.

8.4.4 A three microliter aliquot was injected into the gas chromatograph.

RECEIVED
JEP 2/18

SECTION VI

ENVIRESPONSE, INC.

CHAIN OF CUSTODY RECORD

PROJECT NAME Arkansas Chemical
 PROJECT NO.

SAMPLER(S) SIGNATURE Brian Brass

SAMPLE IDENTIFICATION	SAMPLING LOCATION	DATE SAMPLED	SAMPLE TYPE			C OM P	G RA B	VOLUME TO BE COLLECTED	NO. OF CONTAINERS	TIME COLLECTION BEGAN	INITIAL	TIME COLLECTION COMPLETED	INITIAL	COMMENTS
			WATER	SOLID	AIR									
C1	1st floor Main Room	9/10/87		X		X		120 l						PoCAM 127
C2	1st floor lab			X		X		120 l						
C3	basement stains			X		X		720.00 Unknown volume						Unknown volume
C4	2nd story by Rm 24			X		X		97.5l						
CFB1	-			X		X		Ø						Field Blanks
CFB2	-			X		X		Ø						Field Blank
CFB3	-	9/10/87		X		X		Ø						PoCAM 127 Field Blank
CSB1		9/10/87		X		X		Ø						5 sample blanks

RELINQUISHED BY: NAME Brian Brass DATE/TIME 9/10/87 2100 RECEIVED BY: NAME John Sorenson DATE/TIME 9/10/87 2100
 RELINQUISHED BY: NAME Charles O'Neal DATE/TIME 9/10/87 2130 RECEIVED BY: NAME Patricia Swanson DATE/TIME 9/10/87 2130
 RELINQUISHED BY: NAME _____ DATE/TIME _____ RECEIVED BY: NAME _____ DATE/TIME _____
 AUTHORIZATION FOR DISPOSAL _____ DATE/TIME _____ DISPOSED BY: _____ DATE/TIME _____

ENVIRESPONSE, INC.

PROJECT NAME Arkansas Chemical

PROJECT NO. _____

CHAIN OF CUSTODY RECORD

SAMPLER(S) SIGNATURE Brain Brain

SAMPLE IDENTIFICATION	SAMPLING LOCATION	DATE SAMPLED	SAMPLE TYPE			COMP	GRAB	VOLUME TO BE COLLECTED	NO. OF CONTAINERS	TIME COLLECTION BEGAN	INITIAL	TIME COLLECTION COMPLETED	INITIAL	COMMENTS
			WATER	SOLID	AIR									
S1		9/10/87						120L						PoCAM 168
S2		/						120L						
S3		/						unknown						
S4		/						97.5L						
SFB1		/						Ø						Field Blanks
SFB2		/						Ø						
SFB3		9/10/87						Ø						

RELINQUISHED BY: NAME Brain Brain

DATE/TIME 9/10/87

RELINQUISHED BY: NAME Brain Brain

DATE/TIME 9/14/87 9:28

RELINQUISHED BY: NAME CW

DATE/TIME 9/14/87 9:30

AUTHORIZATION FOR DISPOSAL _____

DATE/TIME _____

RECEIVED BY: NAME Brain BrainRECEIVED BY: NAME Brain Brain

DATE/TIME 9/17-12:02

DATE/TIME 9/14 9:30

RECEIVED BY: NAME CW

DATE/TIME _____

RECEIVED BY: NAME CW

DATE/TIME _____

DISPOSED BY: _____

DATE/TIME _____